



Apple Blossom Computer Club
A registered Apple/Macintosh User Group



Apr. '10
still only
\$2.00

The

ROSE



BYTER

Next Meeting

**Apr. 15, 7 PM
American Legion Hall
406 SE Oak Ave**

Agenda

1. Meeting starts at 7 P.M.
2. Intro's of members and guests
3. Old business
4. New biz
5. Program: The expected program pooped out. So, it's high time come in an experss your opinion
6. Questions & (maybe)Answers

**FCC Lost Internet
Neutrality Court Case
and so did you!**

Adapted from JOELLE TESSLER -
AP Technology Writer article

Tuesday, April 06, 2010

The U.S. Court of Appeals for the District of Columbia ruled that the FCC lacks the authority to require equal treatment to all Internet traffic flowing over networks. Comcast Corp., the nation's largest cable company, challenged the FCC's authority to impose such on them. FCC Chairman Julius Genachowski, argues that such rules are needed to prevent companies from using their control over Internet access to favor some online content and services over others.

Needing clear authority to regulate broadband to implement the national

**The Greatest
Common Divisor?**

by **Walt Pawley** <walt@wump.org>

As any one who bothers to read a bit of my drivel in this publication know, I complain quite a bit about what Apple does, especially from a technical perspective. And one of the major complaints is that they're constantly shuffling the underpinnings of the software base with "innovations."

If you write software, you either love or hate this ever shifting foundation upon which you're expected to be an expert. If you just use software, you most probably just get annoyed when the "insanely great" new things the new versions of your old programs do, don't happen to include some of the things you were accustomed to anymore. I wish I could say that such losses were the direct result of Apple's messing with what's under the hood. But that's not fair. Mostly it's just stupid decisions made by software designers ... as opposed to those people who actually write software to fit the designs. If there's one thing Apple software is all about, it's the design as seen by users.

As important as the images seen by users and the interactions banging on them and tossing them about are, such things are only a small part of software design. There is a whole world of design that users never really

venture into but programmers are required to live in. Truth be told, I am not suited to that world despite having lived in it most of my life. Once upon a time, I could absorb the myriad facts and apply them well. But in that time, the flow of facts was a mere stream, still navigable by mere mortals. Today, facts flood at you from every direction. It matters not that they are presented more poorly than ever because it's impossible to keep one's head above them anyway. But that's a whole 'nuther story.

This story is about GCD ... as opposed to gcd(). The latter, in case you missed it in school, is generally thought of as a Diophantine function of two variables yielding one result (a Diophantine equation is an equation in which only integer solutions – and usually, arguments – are allowed). For example, the greatest common divisor of 6 and 9 is 3. But again, I digress. The gcd() function is not what this is about. It's about Apple's new GCD - Grand Central Dispatch.

Grand Central Dispatch. It sounds a bit like it ought to be a train station. And, in a way, it sort of is like some train stations. GCD is some new, deep software technology to enable putting all the cores in your brand new multi-

The Apple Blossom Computer

Club (ABCC) is an Apple Computer Inc., registered Macintosh and Apple][family user group. The ABCC publishes *The RoseByter* newsletter monthly which is posted to each paid up member and reciprocating user groups. ABCC participates in user group newsletter content exchange. The ABCC also maintains a WWW site at:

<http://www.abccmug.org>

Membership

Just \$20/year! Send with your name, snail- & e-mail address & phone to:
 ABCC
 13748 Lookingglass Rd.
 Winston, OR 97496

Current ABCC Leadership

Treasurer

Jim McClellan
 <mcclellan@charter.net>

Apple Ambassador

Jim McClellan

Web Master

Jim McClellan

AppleScript Guru

Jack Webster <jackw@rio.com>

Newsletter Editor

Walt Pawley <walt@wump.org>
 Send your stories and newsletter ideas to the Editor, Walt Pawley, at <walt@wump.org>. Plain text files are preferred, sent within the body of an email message or as an attachment. Mail physical media to:

**676 River Bend Road
 Roseburg, OR 97470**

Please understand that materials submitted may not be used and those that are will likely be edited.
 Copyright© 2010, All Rights Reserved

<-1 GCD

core Macintosh to use. And more, it can even aid in the harnessing of the GPUs (Graphics Processing Units) on graphics cards, which are very much faster than CPUs (Central Processing Units) at some kinds of tasks.

Having a lot of processors in a computer sounds like a simple way to get higher performance than simply having one processor. For some sorts of things, it's really not all that complex. Such problems lend themselves to being broken into hunks of activity that can be carried out independently. Problems come in when one attempts to translate typical old programs that no one gave any thought to running on more than one processor at a time, into new programs designed for using multiple processors. A great deal of work has gone into trying to develop compilers that translate the programming languages people use into the codes computers execute to take advantage of multiple processors. For the most part, they don't work very well.

So, Apple has decided to avoid the problem and create GCD. With GCD, Apple programmers can develop their programs to run in multiple processors as a matter of design. As is one of my major complaints, to reap the resulting benefits, users will have to buy new hardware and new software. Nothing new there. But the new stretch in programmers' thinking that's required to use GCD will undoubtedly create trouble ... at least for a while.

Despite GCD seeming to fit my normal criteria for being one more PITA programmers have to deal with, I'm rather glad to see it. First of all, it turns out to be very efficient compared to most means of dealing with multiple processors. Second, there's essentially no upper bound on the number of processors that can be kept working with GCD. This means Apple and others may be producing boxes with far more processors than are typical today and

they will be effective at getting work done without the highly specialized programming such things generally require. Third, Apple has open sourced this technology and at least one other operating system, FreeBSD 8.1, will have it available soon. Because of this, mainstream programmers will start working directly with multiple processor computing, learning to think in terms of many things happening in parallel. This will spur further development in this area.

Unfortunately, one big bottleneck constricting the speed of computation is not met by multiple processors, regardless of how well their use is scheduled. That is the fact that memory and processor are separate functions in almost all computer designs. What GCD amounts to is a means of putting codes into memory that guarantee that the processors will flagellate their brains out. What it doesn't do is present the data to flagellate upon any faster. That takes splitting memory up into multiple independently cycle-able sections too. This complicates the whole arrangement further, turning "a computer" into what looks more and more like a network of computers.

This latter roadblock is greatly ameliorated by the fact that today's processor cores often have multi-level cache memory as part of their design. That cache is frequently larger than the total memory used on the mainframe computers of my youth ... per core. What this means is that vast amounts of code can be independently dealt with by each processor core once it's been fed by the main memory. Simply put, there's a lot of performance to gain by using GCD. Now all we have to do figure out how to afford to buy new stuff yet again. Sigh ...



Make a difference!

**Come to the next
 ABCC meeting and
 participate.**

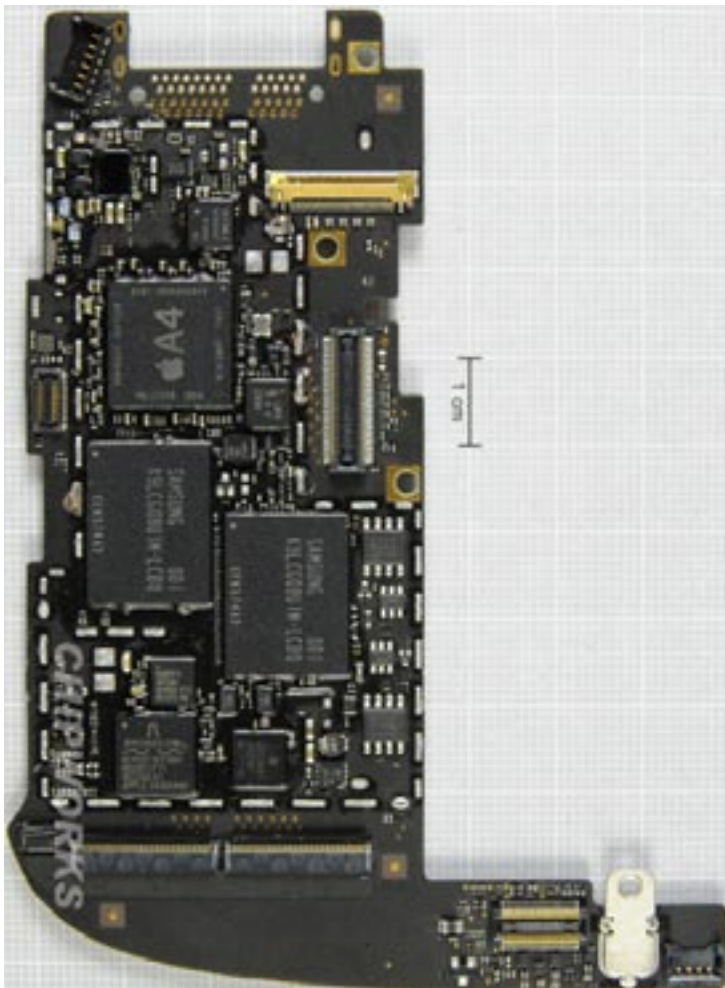
Ever Wonder What's Inside? 3



The iPad is a really big iPod Touch

Adapted from the
Chipworks web site
by Walt Pawley
<walt@wump.org>

You can see from the image that, relatively speaking, the iPad is basically a giant battery with a tiny board attached to it (outlined in red), with some space left over for a future 3G mobile communications board.



You can see the Apple A4 processor and the two Samsung K9LCG08U1M 8 GB MLC NAND flash memory chips.

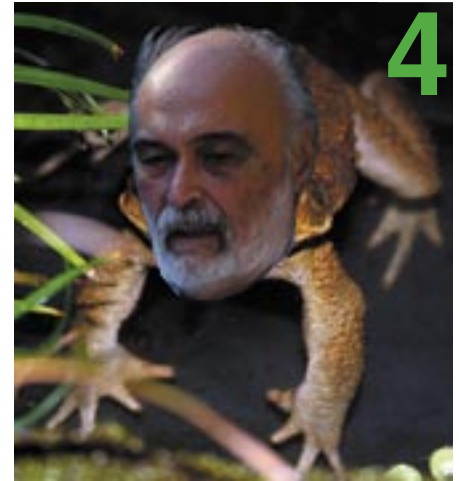
There's this new product being advertised on the telly named EZ Cracker. It's for opening eggs without making a mess. One aspect of my current life is that I normally cook my own breakfast. It typically consists of a couple slices of bacon, a hashed potato and a couple of fried eggs. Being typically male, I only use one frying pan for this, having come to a sequence of events for the process that seems to work for me. But the important part of all this is that **I break two eggs pretty much every day**. I don't find it all that vexing a process, using just my hands and the frying pan. I can't recall ever making any of the sorts of mess that open the EZ Cracker's commercial. Frankly, if I were making these sorts of messes, I'd be worried about my ability to do much of anything. Besides, the EZ Cracker gets egg on it as it's used. Thus it needs to be washed. Definitely not a "guy" thing.

Lasers have been with humans for over 50 years now. Once touted as solutions to problems nobody could think of, they're close to indispensable in the modern world. And the number of applications for lasers is still growing rapidly. Not all of these applications are things you might like. For example, **it's now possible to eavesdrop on conversations at considerable distance** – far beyond the limit of sound detection. It's done with a laser, a defocused digital camera and a computer to process the pictures. The laser needn't be visible to humans. You don't even have to shine the laser on the people carrying out the conversation. All that's necessary is to point the laser at something that is set into microscopic motion by the sound of the conversation. It's a bit like reading the data on a DVD. You can even use the technology as a non-contact heart monitor. I suspect that development of the technology could go a long way in the monitoring of industrial machines, since they have characteristic sounds as a function of

Croak of the MUGwump

Any trace of organization in these paragraphs is entirely coincidental their ailments.

As those of you who've suffered through reading this drivel for some time know, I'm not a big fan of Intel's processor architecture. Of course, such notions are largely foreign to most of us, since most of us don't spend any time studying computer architecture. I happen to be one of those odd balls who's spent some time at it. My unease with the Intel architecture is actually pretty simple to understand. For example, it's basically a copy of IBM's 1130/1800 architecture. Again, only people who've mucked about with old, old computers will have any idea what those IBM machines looked like on the outside, much less on the logical "inside." **A key notion of how a computer's software system is laid out is the general form of a subroutine call** – the communication linkage of one part of a program to another part, the two parts of which are more or less independent logically. Subroutines are a heavily used construct in computer software since they "encapsulate" algorithms. In other words, a subroutine can perform a function and be used over and over by all sorts of other software after having once been written. For example, the square root of a number is a generally needed function not typically implemented directly in a computer's hardware. So, one writes a subroutine that uses the built-in computer actions to convert numbers into their square roots. Then, when the need arises to compute a square root,



it's only necessary to write the generally simple code to call the subroutine. Well, you ask, if calling a subroutine is so simple, what's the problem? Ah, yes. The calling software is generally simple. However, in general a subroutine has to juggle arguments and return addresses around to get things in the right order to return to the calling program. This is a direct consequence of the "single stack model" calling sequence that was defined circa those old, old computers. By using a "dual stack model" calling sequence, it's seldom necessary to do any stack juggling. Ok, you ask, if this is such a big deal, why don't programmers do something about it? Well, a very small number of programmers do. But most are completely unaware of these machinations because they don't really understand how the computers they write software for work. Instead, they've studied the syntax of some programming language purposely designed to hide the peculiarities of underlying hardware. The actual computer code created by their effort is conjured into existence by a program called a "compiler." The curious thing about this situation from my perspective is that we could maintain the general ignorance of programmers and still improve the performance of their programs simply by rewriting the compilers to use a two stack model. Tradition is hard to abandon, especially if it's functional.

I guess I don't qualify as a potential buyer of the Chevrolet Volt. I

<--MUGwump

just got done popping into their web site to learn something about the car. I was greeted by an almost completely white browser window with nothing useful on it. Now, to be fair, I should point out that I have the automatic operation of Adobe Flash garbage turned off with a Flash blocker browser plugin. **I hate Flash junk.** It requires high bandwidth, and is largely just a bunch of mindless, noisy, jumping crap like that which interrupts TV programs periodically. Unfortunately for me, there seem to be an increasing number of corporations who believe that Flash is the only tool you need to develop web pages. This means that they aren't interested in people with normal attention spans and low bandwidth Internet access (not my case) or people who find mindless, noisy, jumping drivel annoying. Human speculation hard at work.

OK, so all this high tech stuff is just too mechanical for you. You prefer mucking with the real stuff of life rather than the artificial stuff. Well, now you can do both! All you need is a 3-D medical printer on your computer. What's that? You don't know what a 3-D medical printer is? Ah. I'm not surprised. Neither did I. I have heard of other sorts of 3-D printers. They're becoming pretty common in the inventing business as a means of making prototype parts. According to a recent blurb, the prototype of a "printer" that can build complex, three dimensional organs from cells has been created and is undergoing testing now. It's apparently capable of placing individual cells within 20 microns of the target position. **The first objective of the 3-D medical printer is to make hunks of artery** from the patient's own cells, that will be from 0.5 to 5 mm in diameter and 5 to 20 cm long. Arteries are not simply pipes made of a single sort of cell. Rather, they're a pipe with walls made of layers of different sorts of cells. As time goes by, more complex structures

should be feasible. Even if full sized, ready-to-go organs are a long way off, creation of "starter" tissues from which a directly functional organ can be grown should be feasible much sooner.

Last month I wrote a ditty about one electronics distributor advertising that because they'd just added tens of thousands of different parts, engineers should be interested. Today, I got an email from an outfit known as IC Master. The proudly proclaim, **"150+ Million Electronic Parts with datasheets for all of them. 9,400+ Suppliers ..."** And, proud they should be of being able to make any sort of sense of that much crap. How an engineer, who's just trying to do the best thing for the client, is supposed to choose from this mountain range of choices escapes me. Somehow, I doubt a "search engine" will cut it.

This afternoon a sales person from Charter called and regaled me with a tirade of all the wonderful features they could provide for a low, low price ... for the first six months. I pointed out I didn't care and was about to do my usual hanging up of the telephone. But I didn't. This fellow spoke like an American and an educated, articulate one at that. So I decided to offer my opinion about Charter's magnificent marketing behavior. This did not go down well. When I pointed out that not only was I not interested in paying their low, low price for the conglomeration of valuable services that cost them almost, if not quite, nearly nothing to provide. **He insisted that \$60/month for phone service was a bargain.** I pointed out that ours cost a good deal less. At that point he offered a \$20/month phone service ... for six months, after which the price would rise. I pointed out that I was sick and tired of dealing with all these special offers, the only purpose of which is to drag you in so they can subsequently rip you off. At that point, he started arguing about a

number of things, like the fact that they allow higher data rates at no additional charge. Again, something that costs them essentially nothing to provide. Indeed, it costs them to limit the speeds. Then I added that we were likely to drop our TV service when the current special deal was over [done]. Cable companies in this country mostly operate on a monopoly basis. Once at the behest of the local governments, they no longer seem to be any check or balance on their behavior ... other than people saying, "No." The only Americans that seem willing to do that today are those who're too poor to do otherwise.

One of the things that really galls me to the core is to have to agree with Microsoft. Euchhhh... Well, despite the bad taste in my mouth from such a thought, it galls me even more to see some schmucks profiteering on the back of extremely questionable patents in the courts. From the perspective of effect on consumers of Micro\$haph't's products, **if you are currently relying on Word 2003 or 2007, I suggest segueing your Word files into some suitable generic format in the very near future.** The reason is that the default format for files in those versions of word is a "customized XML" on which some outfit known as i4i is believed to have a patent. From my perspective, the very notion of a patent on XML is pretty bizarre. It's merely a file format. There is absolutely nothing magic about it despite all the hype ... which I suspect only exists because people are too lazy to look beyond it to find the truth. It's much easier to throw good money after bad and believe that someone claiming to have all the answers is going to live up to their hype. Yeah. That's the ticket.

NASA recently tested some new technology designed to reduce damage to occupants of a helicopter when it crashes. Not unlike the ideas being designed into modern cars, it's basically an energy absorbing hon- **6 -->**

<--MUGWump

eycomb cushion and some deflecting struts. To do the test, they dropped an Army donated chopper outfitted with 160 sensors from a height of 35 feet with the passenger compartment loaded with four crash test dummies. **One of the four crash test dummies was from Johns Hopkins University** and had simulated internal organs. The other crash test dummies were probably just recent college graduates working at NASA. The helicopter reportedly survived the crash.

Strides being made in medical technology are tough to get into practice. Sometimes this is a good thing. There are times when what first appears to be a great boon turns out to be a good deal less than thought. But the long period before new technology becomes accepted can also waste a lot of health and life, too. Such is the nature of the human condition. In my life time, biological science has exploded and shows every sign of many of the early promises coming to fruition. Mostly this exponentially expanding balloon of knowledge is the result of cross fertilization of more or less classical biology with other fields, like mathematics, chemistry, physics and the technologies they herald. For example, **IBM is creating a 1x5 cm chip that is roughly akin to a laboratory full of diagnostic testing gear** that uses just one microliter (about 1/50 of a tear drop) of sample material to do its work. Then there's an optical malignant melanoma detector, the primary purpose of which would be to rule out tissues that don't need biopsy. Research is underway to establish the nature of gases exhaled by people with and without breast cancer. Assuming it can be properly characterized, it would be much safer than x-rays and might even be better at detection. If we can just live long enough, one of these days they'll be able to tell us what ails us!

Wow! I just bumped into a letter to

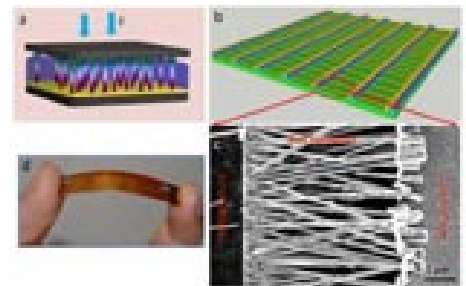
an editor of a technical rag that was unhappy with the constant pace of "innovation" we're all more or less forced to contend with. I've long maintained that pace has more to do with the desire of marketeer's to have something "new and improved" to sell all the time than it does any real improvement. Note that I'm not against real innovation. And there have genuinely been some in the world of computing. Many of them have gone by the wayside, despite their real efficacy. None the less, **every quarter companies produce at least some new models of equipment or some new version of software.** Once upon a time, the feature sets of these advancing products would encompass those of their predecessors for quite some time. These days it seems that features on new products are a shuffled mix chosen at random from those that have gone before. Perhaps this would matter less if the availability of products were maintained for longer than one generation. But these days it's not uncommon to make plans to buy a computer, peripherals and software and discover that by the time the plan is put into action, the items are no longer available.

In a recent email, there was a link to an article about researchers at North Carolina State University creating a system for keeping a vehicle in a lane when the driver isn't. While not exactly new basic technology, **it's offered as a means of improving highway safety.** In that same email there are two links to articles about Toyota's accelerator pedal problems. If I'm not mistaken, the latter are not what was once thought of as "gas pedals," but are really sensors creating a signal that tells the vehicle's computer how depressed the pedal is. One could make a case that electronic whiznoids are more reliable than the old mechanical Rube Goldberg linkages the classical "gas pedal" employed. Still, I'm troubled by such things.

Electronic failures tend to be instantaneous from the human perspective whereas mechanical failures often give the person a lot of complaining and whining about their plight before giving up the ghost. Of course, most drivers would not really notice the growing recalcitrance of the mechanic's impending catastrophe anyway, so perhaps it's just as well. Still I'm concerned that we rush to add safety junk to vehicles. Air bags are one of my greatest pet peeves. They are most decidedly not a good idea for the most part and are basically there to placate political stupidity. One thing is certain – adding complexity to systems increases not only the chances of failure but inscrutability of failures when they occur.



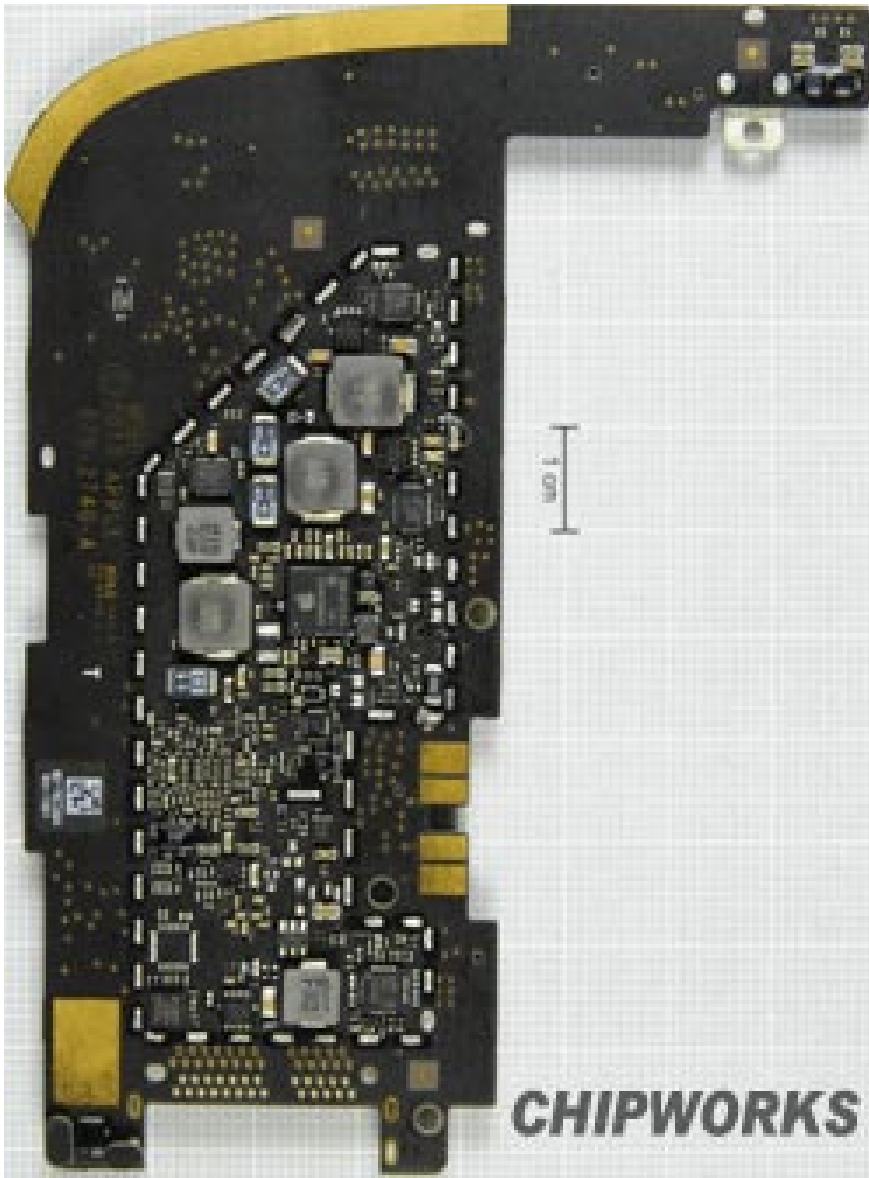
No Batteries Required!



Based on arrays containing as many as 20,000 zinc oxide nanowires, each nanogenerator can produce up to 1.2 volts and are cheap to make on flexible substrates. Tests show they can be operated over time without loss of generating capacity.

Zhong Lin Wang, of the School of Materials Science and Engineering, Georgia Institute of Technology says, "We now have a roadmap for scaling these nanogenerators up to make truly practical applications." For the past five years, his team has been developing piezoelectric nanoscale generators – making electricity when zinc oxide wires are flexed. Current from many wires can be combined. Recent work has focused on increasing the amount of current and voltage generated and on making the devices more robust.

<-3 Inside the iPad



The backside image doesn't reveal as many of the obviously newsworthy chips, but does appear to have the iPad's inertial sensor. The accelerometer design win was by STMicroelectronics.

<-1 FCC vs Comcast

broadband plan, this ruling will have serious implications for future FCC activities and yours. The case was about Comcast's challenge of a 2008 FCC order banning the company from blocking its broadband subscribers from using BitTorrent. Simply put, the big boys want to be allowed to censor the flow of data to suit themselves. This is pretty much the way things are in China right now, except it's the government there that's enforcing the censoring, not the necessarily the network providers.

7 The FCC now defines broad-

band a "lightly regulated." Thus it doesn't have to share its networks with competitors and treat all traffic equally. The FCC now has several options. It could ask Congress for authority to regulate broadband or it could appeal the decision to the Supreme Court. Ben Scott, policy director for the public interest group Free Press believes the agency will simply reclassify broadband as a more heavily regulated telecommunications service.

Such an outcome is not exactly what Comcast was hoping for, I suspect. Interestingly, this is all about freedom. The freedom that's been upheld is that of companies providing infrastructure

to behave pretty much as they please. To do that, the freedom of the population at large has been curtailed since Comcast, and presumably others, are free to interdict network traffic at their whim ... at least for the time being. Competition may be a good thing ... if it's real. But competition does NOT exist in the cable business almost anywhere in the U.S. That is very likely to remain the situation for the long term. For better or worse, the time has come to rein in the unchecked profit motive mindset ... assuming you value your freedom, that is.



Apple Offers Cheaper Mac Developer Program



<http://db.tidbits.com/article/11059>

by **Glenn Fleishman**

The Apple Developer Connection (ADC) is no more; it has been renamed to the Mac Developer Program to parallel the iPhone Developer Program. The Mac Developer Program's price is now a uniform \$99 per year, without any hardware discounts; a limited free version of the program remains available.

This change comes shortly after Apple imposed mandatory membership at \$99 per year in the iPhone Developer Program to receive future iPhone OS betas. Before the iPhone 3.2 beta release, members could join at no cost, and pay only if they wanted to release software through the App Store. (It's possible the iPhone Developer Program fee applies only during the beta period; Apple says elsewhere that the iPhone SDK is available at no cost.)

ADC membership used to have many tiers, differentiated partly by whether Mac OS X update and new version betas were included. A free membership included access to technical documentation (\$199 got you the same stuff shipped on discs by mail), while paid levels included Mac OS X betas.

The \$499 Select level included Mac OS X builds, two technical support incidents with which developers could get detailed troubleshooting help, and one hardware discount. The hardware discount allowed purchases of Macs at reduced prices, sometimes high enough to offset the full price of Select.

A \$3,499 Premier membership included a ticket to WWDC (Apple's



Worldwide Developer Conference), 10 hardware discounts, and eight technical support incidents. Both programs also provided access to Apple onsite compatibility labs, marketing help, and other tidbits.

A Student membership cost \$99, and included just the hardware discount and operating system builds.

In contrast, the new Mac Developer Program is a thing of simplicity: \$99 per year for access to Mac OS X releases, including server versions. This price includes two technical support incidents, and additional incidents cost \$99 for a pack of two or \$249 for a pack of five. The \$99 price is the same for individuals or for companies of any size.

Apple dropped WWDC-related material and hardware discounts in the new program. At one point, when Macs cost substantially more and developers regularly needed new models to test, the hardware discount made those purchases palatable; a developer subscription was often cheaper than the difference Apple charged between its street price and its developer price for a high-end computer. Now, many developers don't need to buy hardware every year (and Apple's entry-level models are powerful enough to allow software development), but do need the technical support incidents.

For many developers, this is a massive price drop. Daniel Jalkut of Red Sweater Software tweeted, "Whoah, my annual Apple tax dropped from \$600 to \$200?" (He was referring to the cost of his iPhone and Mac developer memberships combined.)

A free option remains, which looks identical to the previous ADC free level and provides access to Apple's Xcode 3 developer tools, online resources, and bug reporting.

Apple's intention is clearly to make it more affordable to dip one's toes into

the Mac OS X development pool without a \$500 (plus sales tax) tab. It also means that those of us who write about Mac OS X or develop Web applications can have far cheaper access to future releases and upgrades against which we can test before they ship.

Apple has a FAQ that explains the transition for existing ADC members, who retain various benefits such as transferrable assets (the ability to let other account holders get a hardware discount or access to Mac OS X pre-releases) until current memberships expire. Recent subscribers or those who purchased renewals may be able to get refunds.

<>

Reprinted from TidBITS 04-Mar-10; reuse governed by Creative Commons license. TidBITS has offered years of thoughtful commentary on Macintosh and Internet topics. For free email subscriptions and access to the entire TidBITS archive, visit www.tidbits.com.

unClassifieds

Need a manual?

Discount for **ABCC** members!



**Apple Blossom
Computer Club**

<http://www.abccmug.org>

Give it a look.

Put in your own...

