
Juiced.GS

A quarterly Apple II journal

🍏 Best of 2008

Sample Issue

KansasFest 2008



Late nights, pizza parties, wandering from room to room, and hacking away — It's KansasFest, where the Apple II is alive and well. Read our coverage on pages 8-12.

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My Home Page

Welcome Home

Welcome to the sample issue of *Juiced.GS*!

This publication was founded by Max Jones in 1996. With other storied publications such as *Nibble* having ended their production runs, and other attempts to fill that gap not realizing their potential, Max determined a need within the Apple II community for a regular publication that would bring its members the latest news, reviews, interviews, and how-to's.

What you are holding is evidence that that need still exists, and that *Juiced.GS* is still filling it. More than a decade later, it is in fact the only Apple II publication still in print.



Despite the small number of people in this community, it is still big in its diversity and geography. Members hail from the United States, the United Kingdom, Australia, Germany, Japan, and elsewhere. So it's unsurprising that sometimes news travels slowly.

The existence and value of a publication like *Juiced.GS* is something that's yet to be discovered by all those members. This sample issue is intended to rectify that, with one article from each of the first three issues of the 2008 volume. The interview with Dan Budiak and the MicroDrive/Turbo review appear here in full, though some pictures and tables were cut. The KansasFest article covers four-and-a-half of the event's six days and also originally ran with several more pictures.

These articles represent a small portion of what we publish in each 20-page issue every three months. A growing staff of writers and programmers diligently

work each issue to bring you news of upcoming software and hardware releases, and in-depth, critical reviews of same once they are available. Some programmers provide tutorial series to help you learn the ins and outs of Apple programming; others give you an inside perspective on how your favorite programs came to be. Interviews with Apple II luminaries, past and present—Mike Harvey of *Nibble Magazine*, Jeff Fink of *Silvern Castle*, Jason Scott of *BBS: The Documentary*—give you the answers to the questions you've always wanted to ask your favorite programmers, publishers, documentarians, and more. And first-hand coverage from every summer's KansasFest lets those of you unable to attend the world's only Apple II convention vicariously experience this unique affair.



Juiced.GS is a one-of-a-kind publication in the modern Apple II community. Those who support it find that it brings an essential focal point to their retro-computing hobby, while reminding them that the Apple II is alive and well.

"I am just delighted with [*Juiced.GS*]—each issue just has a ton of content," said Carrington Vanston in an episode of *1 MHz!*, his Apple II podcast. "It's exciting just to get an Apple II publication in 2006."

I hope that this sample issue will provide you with a hint of the value that other Apple II enthusiasts have found in *Juiced.GS*. Subscription and contact information is found on the facing page.

Ken Gagne
Editor-in-Chief

Review: MicroDrive/Turbo

MicroDrive/Turbo

\$185 + shipping & handling

**Developed by ///SHH Systeme
and available from:**

ReactiveMicro.com

<http://www.reactivemicro.com/>

By Mike Maginnis

It is a testament to the genius of Woz's design that the Apple II's architecture continues to be expanded more than thirty years after its initial introduction. Enterprising hackers have created hardware to adapt technologies such as Ethernet and CPU acceleration, and now, as prices on solid-state media such as CompactFlash continue to fall and reliability improves, just such a homebrew device finds new life in the Enhanced IIe and IIGS.

Meet the MicroDrive

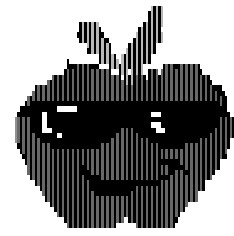
The MicroDrive/Turbo controller, developed by Joachim Lange in the mid-1990's, is available now from ReactiveMicro.com for \$185 + shipping & handling. While the MicroDrive/Turbo was initially designed to handle IDE hard drives—and handle them it still does—today's Apple II technology trends in mass storage lean toward CompactFlash, which the MD/T also accommodates. The MD/T now comes retrofitted with everything you need to take advantage of CompactFlash in your Apple IIGS (ROM 01 or later) or Enhanced IIe. Included in the package are a 3.5" ProDOS-formatted 800K floppy containing the Setup Utility, Driver, and Hard Disk Utilities for the Apple IIe and IIGS; a CD-ROM with both PDF manuals and a Quick CF Card Setup guide; a Butterfly Media Hi-Speed USB 2.0

CompactFlash Reader/Writer for use with your PC or Mac; a 128MB preloaded CompactFlash card; and the MD/T itself.

The MicroDrive/Turbo comes ready to run out of the box. Its documentation suggests using slots 2 or 7 on a IIGS, but any slot will do; for the IIe, no suggestions are offered. A dual-slot CF-IDE converter comes plugged into the 40-pin IDE connector on the main circuit board and can be removed to connect other IDE devices to the MD/T. A 128MB CompactFlash card is plugged into the converter's primary CF slot and is pre-partitioned and formatted with four 32MB ProDOS partitions. System 6.0.1 is already loaded on the first partition, so you can simply plug the MicroDrive/Turbo into your Apple. The 17-page PDF manual boasts that the card can boot into GS/OS in twelve seconds on a standard IIGS, and nine seconds with an accelerator present. My testing proved these numbers to be accurate, as represented in Table 1 (page 4). The MicroDrive/Turbo booted a Kodak 128MB CompactFlash card with four 32MB ProDOS partitions. A default GS/OS installation was loaded on the first partition of the card.

Table 2 (page 5) represents my test of file-copy speed. Three files were transferred 10 times each from an 800K floppy to a partition on a CF card on the MD/T.

The MicroDrive/Turbo can boot into any partition on the attached device via a simple keypress combination (Open-Apple + partition number you want to boot from) during start



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Best of 2008

Sample Issue

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Review: MicroDrive/Turbo

up. This handy feature allows you to load each partition with a different OS or configuration and boot right into which ever one you choose.

The CompactFlash card that ReactiveMicro.com includes with the device is loaded with useful software. System 6.0.1 is loaded on the first partition, and the second partition contains ShrinkIt v3.4, a set of SCSI card utilities, Dsk2File v5.8, Diskmaker.8, Block Warden, CVTech's MemTest, and Copy II Plus 9.1, as well as drivers and documentation for not only the MD/T, but several other of ReactiveMicro.com's product line.

The MicroDrive/Turbo partition scheme is incompatible with Rich Dreher's competing CompactFlash For Apple II (CFFA) controller; a CF card set up on one device will not work in the other.

Set up

Following the included instructions to install a new CF card for use with the MD/T is a multi-step process. The card must be partitioned and formatted on the MD/T using the included INSTALL.SYSTEM utility. Then, the card must be moved to a PC and the volume images on the CD transferred to the card using CiderPress (reviewed in *Juiced.GS* Volume 12, Issue 4). There are four 32-megabyte volumes on the CD: one contains a default GS/OS installation, another various GS/OS patches, drivers and utilities. (These are the same files included on the preformatted CompactFlash disk that comes with the MD/T.) If you are intending to use GS/OS with the device, a system driver for the MD/T must also be installed to ensure you get the best possible performance from the controller. The MD/T will still work without

Machine Speed	GS/OS load time
2.8 MHz	11.6 seconds
10 MHz	9.0 seconds
13.75 MHz	8.1 seconds

Table 1. Times are the average over ten trials of booting a CF volume.

the driver, but there is a noticeable difference in speed when operating without it. The two images for the IIe contain a similar setup: ProDOS and various utilities in the first volume and DOS MASTER, a system for putting DOS 3.3 partitions on ProDOS volumes such as a hard disk or a 3.5" disk, on the second.

This is the documented process for installing a new CF card, but you can install whatever images or operating systems you like. The documentation briefly mentions HFS partitions, but after noting the limitations and unreliability of such partitions on the IIGS, recommends against this file system. But HFS was nonetheless easy enough to set up: using the included setup utility, a partition was created and then formatted in GS/OS.

The MD/T supports two partition schemes depending on the number of devices you have attached to the card. With the default schema, a single volume of sixteen partitions is created; with the other, two volumes of eight partitions each are made. Again, any of these can be booted (assuming you install an operating system) with the Open-Apple key press combination during start up.

Documentation

The included CD contains not

only the MicroDrive/Turbo Manual in PDF format, but manuals and documentation for everything ReactiveMicro currently sells, as well as an extensive library of scanned Apple II manuals, books, reference files and even hardware schematics. Most of these files are unrelated to the MicroDrive/Turbo. Also on the CD is a library of disk images containing software and drivers for ReactiveMicro's product line. Several of these are MicroDrive/Turbo volume images, 32MB in size and in ProDOS-order format, and are designed to aid in creating partitions on your physical device; they are accompanied by a Microsoft Word file outlining instructions for quickly setting up a new CompactFlash device, and an animated .GIF containing screen captures of the actual creation process in CiderPress.

It should be noted that following these instructions requires the use of CiderPress, a Windows-only application. Instructions for setting up a CF card under Mac OS for use with the MD/T are not included. CiderPress and the image files included on the CD are not required for successful setup, however, and are simply included for the sake of convenience. GS/OS can be installed using the standard 3.5" installation diskettes, once the CF card is properly partitioned with the utility.

Review: MicroDrive/Turbo

Machine Speed	File Size	File Transfer Time
2.8 MHz	25K	4 seconds
10 MHz	25K	3.2 seconds
13.75 MHz	25K	2.9 seconds
2.8 MHz	40K	4.5 seconds
10 MHz	40K	3.9 seconds
13.75 MHz	40K	3.5 seconds
2.8 MHz	90K	6 seconds
10 MHz	90K	4.8 seconds
13.75 MHz	90K	4.1 seconds

Table 2. Times are the average of ten trials when accessing a CF card.

Also on the CD is a copy of Andy McFadden's excellent open-source program, CiderPress. This is handy, as CiderPress is the premiere disk image management program on the Windows platform, and can be used to transfer data directly to and from your ProDOS or HFS-formatted CompactFlash card in a Microsoft Windows environment.

It's clear that the documentation and supporting utilities were designed with hard disks in mind, not solid state storage. The User Manual makes no mention of CompactFlash cards, and in fact they are only mentioned in the Quick Setup instructions. The MD/T and its utilities, however, have no problem with the newer storage medium.

DMA

The MicroDrive/Turbo's incredible speed on the IIGS is derived from its DMA capability, which distinguishes it from the basic Mi-

croDrive controller, sans turbo. DMA, or Direct Memory Access, is a technology found in all modern, and many vintage computers, including the Apple IIGS. DMA provides true 1:1 interleave by allowing the computer's peripherals to interact directly with the system's memory, bypassing the CPU entirely. This technique eliminates CPU overhead, resulting in a significant speed increase when accessing volumes. But the correct DMA setting must be chosen for the controller, as an incorrect DMA setting can lead to data corruption. The MD/T setup application allows you to choose whether DMA is active and if so, which type to use (ROM 01 or ROM 03). Other options—"enable" and "undefined"—are not so clear; the manual, while addressing DMA in depth, does not cover what these options mean.

MD/T and the IIe

As shipped, the MicroDrive/Turbo is not compatible with any

model of the Apple IIe. When ordering, you can specify that the card will be used in a IIe, and for no extra charge, ReactiveMicro will replace the card's firmware with a version for the IIe. This firmware essentially turns the MD/T into the slower standard MicroDrive controller, at \$50 more than the actual basic MicroDrive. So if you're looking for a mass storage device for the IIe, stick with the basic version of the MicroDrive, or check out Rich Dreher's CFFA controller. The MD/T is incompatible with the other models of the Apple II (II, II Plus, unenhanced IIe and IIc).

In conclusion

The MD/T's ability to transparently handle CompactFlash cards is a plus; as the medium has matured, card capacity and reliability have increased roughly in sync with Moore's Law. Additionally, as Serial ATA becomes the standard hard drive interface, IDE drives will become less common and finding replacements, more difficult and expensive. Add the ever-decreasing price-per-gigabyte factor and the fact that CompactFlash cards have no moving parts to fail, and it makes little sense not to go this route.

Overall, the MicroDrive/Turbo was easy to set up and use out of the box. Joachim Lange's installation utility made preparing new CompactFlash cards simple, and with CiderPress, transferring data to and from my PC was a snap. At \$185 + s/h, the MD/T is not cheap—nearly double the price of the competing CFFA, and \$50 more than the standard MicroDrive controller—but its extra features and especially the speed boost gained through DMA support, are worth the additional cost.

Unboxing the Apple IIc

What price nostalgia? For Dan Budiac: \$2,600

Whether you're replacing parts on your current machine or looking to revisit your youth, Apple II computers can be fairly easy to find: just check online auctions or your local flea market. But as the years go by, whole and functional vintage computers are becoming rarer. When Dan Budiac, a Web developer living in New York City, wanted an Apple IIc like he had as a kid, he bought one on eBay. Nothing unusual about that—except this IIc was still in the original box and had not seen the light of day since it was packaged in 1988. The price Dan paid for this mint lot: \$2,600. And what did he do with this collector's item? Why, he opened it, of course. Juiced.GS interviewed Dan about his expensive nostalgia.

Ken Gagne: What was your first computer?

Dan Budiac: In 1979, my father brought home an Apple II Plus and hooked it up to a cheap, black-and-white television from JC Penney. No disk drive, at least initially, just a cassette player. Eventually, he upgraded to an Apple IIe with dual Disk II drives.

The first computer that belonged to me, that was set up in my room, of course, was an Apple IIc.

Gagne: What are some of your favorite memories of the Apple II?

Budiac: In 1984, my father opened a computer store in suburban Milwaukee. He bought into a

franchise by the name of "Software Centre." While the store remained open for only a few years and was a financial nightmare, my dad sheltered me from the economic realities of a struggling retail venture. All I knew was that in the summer, I could go into work with Dad and play with computers all day.

While games were certainly fun, my interest lay primarily in programming. I loved to write code. When I was twelve, a customer approached my father asking for a simple label printer for their Apple II. No such product existed, so I was asked to write one. I spent a weekend coding, 80% of my time being spent on a cool intro screen animation that made it look as if the program name was being "printed" to green bar printer paper on the screen. The floppy containing my code is still sitting somewhere in my parents' basement.

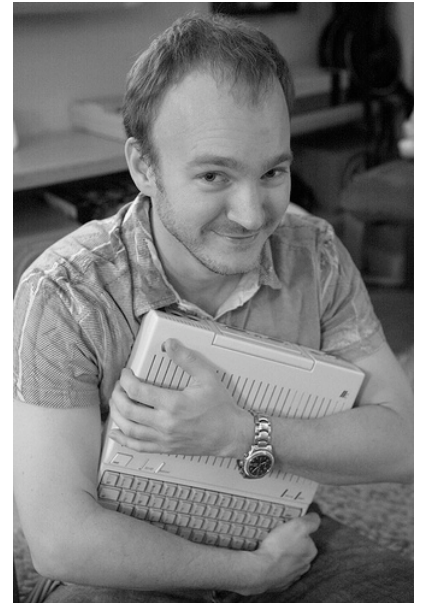
Gagne: How long has it been since you had an Apple II?

Budiac: My folks sold my Apple IIc in 1989, shortly after we switched to a PC clone. I've played with emulators since, but that was the last time I sat down in front of actual hardware.

Gagne: Did you go looking for a IIc, or did you not know you wanted one until you saw this eBay item?

Budiac: It had to be a IIc. In my mind, it's the one of the sexiest computers Apple has ever made.

Gagne: What made you want to get this computer?



Dan Budiac, having paid \$2,600 for his mint Apple IIc, is not about to let it go anytime soon. Photo by Kathryn Yu.

Budiac: Most vintage computers on eBay, especially those encased in white plastic, have not aged well. As I understand it, there is a chemical additive mixed into the plastic that acts as a fire retardant. Over time, this chemical can cause a yellow discoloration when exposed to heat and UV rays.

There were two similar auctions, rooted in similar circumstances, that slipped through my fingers. Both were collectors that bought the system from resellers who found the system in their basement, hardly used. Both went for a hefty sum, but not to me.

When this auction came along, I knew I had to have it. The prospect

Musings: Dan Budiac

of unboxing a mint, twenty-year-old computer was simply too good to pass up.

Gagne: Why not buy a cheaper, used IIC—or use an emulator?

Budiac: Virtual II is a phenomenal piece of software, but it's just not the same as using the actual hardware. And since, for me, the computer is as much a piece of art as it is a machine, I wanted one that was in like-new condition.

Gagne: How much were you expecting to spend on this auction? What was your budget?

Budiac: I had a ballpark figure in mind, based upon what previous, similar auctions sold for. Mentally, I tacked on a bit more, since this was a mint-in-box item.

Gagne: What does Kathryn, your fiancée, think of your decision?

Budiac: She was surprisingly supportive. She knows I'm a bit of a vintage geek—I have a nearly complete collection of old Nintendo video game systems—so she understood where I was coming from.

Gagne: How did you decide to unbox your purchase?

Budiac: The day after I won the auction, I thought long and hard about whether to open it or leave it in the box to accrue collector's value. Ultimately, I decided that I didn't buy it as a financial investment. I bought it so I could stay up until four o'clock in the morning playing Oregon Trail.

Gagne: What have you been using the IIC for?

Budiac: I'm still building my software collection. I just won a

collection of old Beagle Bros software on eBay.

Long term, I have two ideas that I'm toying with. It'd be nice to configure it as a dumb terminal for my Mac, though I'm not sure how much I would use it. I've also considered putting together an old-school BBS, and hacking it so that people could telnet into it via my Mac Mini acting as a proxy.

Gagne: Will you be migrating any of your daily computing tasks to this machine?

Budiac: Unlikely. While I don't want to see it sit in the corner unused, I'm very careful in how I handle the computer. I wash my hands before using the keyboard, etc. I want to keep it in good condition.

Gagne: Is this the beginning of a collection?

Budiac: My fiancée and I live in a small one-bedroom apartment in Manhattan. I'm afraid one vintage computer is all we have room for.

Gagne: What other computers, modern or classic, do you have and use?

Budiac: I use a MacBook Pro as my primary computer, hooked up to a 30" Cinema Display. Kathryn is using my old 12" PowerBook G4, though she has her eye on a MacBook Air. I also have a Mac mini that's used as a media and file server.

We're also big video game nerds. I have every generation Nintendo console, all functional: the original Nintendo Entertainment System, the Super Nintendo, the Nintendo 64, and the Nintendo GameCube. And, of course, I stood in line for eight hours at the Times Square

Toys "R" Us the day the Wii launched.

Gagne: Why use a vintage computer nowadays? What does that era offer that today's machines don't?

Budiac: I think today's multi-tasking computers can be somewhat of a drain on productivity, particularly for the easily distracted. Glance at my MacBook Pro on any given work day, and you'll see a few Safari windows, iChat, TextMate, Mail, VMWare, Twitterrific, iTunes, Terminal, and a few Remote Desktop sessions, all competing for my attention. But, if you were to look over my shoulder right now, you'd see none of that: I'm using an application called WriteRoom, which gives me a black screen, green mono-spaced text, and a blinking cursor. Nothing else to distract me from my writing. Apart from the size and resolution of the monitor, it looks nearly identical to AppleWorks or PFS:Write.

I think there's a lesson to be learned here. I wish more applications would offer a minimalist, heads-down, nose-to-the-grindstone mode that eliminated distractions.

Gagne: How long do you see yourself using this computer?

Budiac: I honestly can't see parting with the computer, ever. Even if I grow bored of reliving the glory days, it's a functioning piece of history, and a beautiful one at that. It's better than anything I'd pick up at an art gallery.

A photo album of Dan unboxing the IIC has received more than 2.5 million hits and a wide variety of sentiments. View it online here:

<http://www.dansays.com/2c>

KansasFest 2008

Old computers don't die — they go to Kansas City

For Apple II users, there are only so many places to go for all your computing needs. Fortunately, when that place is Kansas City, there's nowhere else you need to be.

KansasFest 2008 came to Missouri's Rockhurst University this past July for the 19th annual Apple II conference. Retrocomputing hobbyists from across the country made the trip to rekindle their enthusiasm and recharge their batteries for another year. This year's KansasFest roster was unusual for having no first-time attendees, but many regulars were present, as were several hobbyists who'd attended their first KFest in the recent years and enjoyed it enough to make it an annual tradition.

Day one

No official sessions were scheduled for Tuesday. Attendees could arrive at leisure and move into Corcoran Hall, which KansasFest was last held at in 2005, its first year at Rockhurst. After the usual delayed planes, lost luggage, and misdirected travels, enough people showed up that they collectively set out to Sweet Tomatoes, a local cafeteria-style restaurant that offered something for everyone, including a chance to sit down and catch up.

Day two

The second day of KansasFest 2008 began with the week's first on-campus breakfast. No formal activities were scheduled for the morning, giving the Apple II fans time to continue unpacking and greeting old friends. HackFest, the annual programming contest that challenges attendees to write the coolest or most useful Apple II program in the short time they at KFest, quietly began Wednesday morning. The number of contestants fluctuated, depending on the rumor of the moment.

The KFest Kookout, with Kirk Mitchell as head chef, lured everyone out of the air-conditioned dorms to enjoy a comfortable summer day outside. Over a barbecue lunch, some Apple II webmasters had a casual competition to see who owned the most domain names. Eric Shepherd edged ahead of the competition, due to having purchased a domain and then realizing he had



Return to KansasFest: Lane Roathe of Ideas From the Deep delivers the KFest 2008 keynote speech.

misspelled it, forcing him to buy it again, but with the correct spelling.

With most attendees having arrived by lunch, it was then time for KFest to officially begin with the opening keynote. This year's speech was given by Lane Roathe, an accomplished game programmer whose credits include Dangerous Dave, Dark Castle, and Nanosaur. Roathe spoke at length and entertained questions about his diverse experiences in the electronic entertainment industry, dating back to the Eighties.

Cover Story: KansasFest 2008

It was the Apple II that introduced Roathe to gaming, with the first game he ever bought being Space Warrior. As a gamer, Roathe was intrigued by the copy protection of the decade, which he called "a game of cat and mouse" between user and programmer, with one trying to outwit the other. A self-taught programmer, Roathe learned from being on one side of that battle many of the techniques that would help him transition to the other side.

When he encountered the game Sabotage, which he once played for 72 hours straight, Roathe discovered his "first addiction was to playing games instead of writing them." Such tests of endurance prepared Roathe well for the marathon programming sessions involved in co-creating the games Doom and Quake. But before those titles, his first paid gig was to create a live stock ticker program, for which he was compensated with a copy of Bill Budge's Pinball Construction Set. Later, while still in high school, he was hired to rewrite the blood analysis software for a local hospital's Apple II Plus. Observing how times have changed, Roathe commented, "[Today] I would be a little hesitant to have a high school guy write the software that's going to tell you what medication to take."

Still a gamer at heart, Roathe eventually joined UpTime, a disk-based publication of Softdisk. It was here that he met John Romero, with whom he formed the software company Ideas From the Deep. IFD, which still exists today, had its start with contract work for Infocom, creators of the famous Zork line of games. Roathe's work on those games earned him the attention of Scott Miller, who invited him to work for Apogee Software. There, Roathe helped write a PC version of Nintendo's popular Super Mario Bros. Though legalities barred this exact product from release, its engine became the foundation for Commandeer Keen, a popular game that brought to the PC the arcade action that was becoming the province of console games.

Gaming is something the Apple II did well, and it's a spirit Roathe continues to embody in his modern products. "I was very lucky to grow up in a time when programming skill actually meant something," he reflected in his keynote. Being a good programmer means recognizing and appreciating the end product because you're also an end user; "We don't hire programmers who don't have some knowledge of gaming. [But it's not just] about the tech or feature list; it's about the enjoyment you get from the product. If you come to me with a [game design] degree, I'm going to be very skeptical of you."

Roahe closed his keynote by distributing a CD-ROM that collected many of his Apple II and Macintosh utilities, including source code. But this bounty was not a parting gift, as Roathe stayed in attendance for another day, enjoying his first KansasFest in more than 15 years. He finally received word that a long-awaited programming contract had come through, leaving him to drive home to begin work to meet the new deadline.

In the meantime, Michael J. Mahon gave the first session of the season. Having made his debut at last year's KFest with his "AppleCrate" parallel processing machine, this year he demonstrated the next iteration of his creation: a tower that incorporates 17 Apple IIe motherboards. Each board had its own video output that could be used to monitor their individual tasks. By distributing tasks among the machines, Mahon demonstrated the creation of a Mandelbrot fractal that would take a single IIe more than eight hours to finish. More amusingly, using a custom program called Crate.Synth, he made the AppleCrate's multiple audio channels play the Beatles song "When I'm Sixty-Four". Though its performance may not compare to modern machines, as Mahon pointed out, "It's like watching a dog dance: it's not how well he does it, it's that he does it at all."

After a quick break for dinner, the next session was by Rob Walch, a Kansas City resident and host of the Today in iPhone podcast. After covering the debut of the Apple iPhone mobile device at KFest 2007, he returned this year to update attendees on the new iPhone 3G model, which had been released just weeks before. Though Walch found the first iPhone to be incomplete in its feature set, he considered the new iPhone to be a full v1.0 release, correcting many annoying "paper cuts" while still having a few of its own. He finished by showcasing several neat third-party applications available for the iPhone, such as games and useless gimmicks, including one that turns your iPhone into a *Star Wars* lightsaber. However, an Apple II emulator continues to be absent among the application offerings. Walch promised to come to KFest 2009 to keep attendees apprised of this and other developments.

As Walch packed up his equipment, an order was placed for a pizza delivery. Knowing that KFesters often replace sleep with food as their primary source of energy, Syndicomm and *Juiced.GS* traditionally have hosted a pizza party the Wednesday night of every KFest. Though Syndicomm and *Juiced.GS* are now, unlike in the past six years, no longer a single entity, they were still happy to join forces to feed the hungry masses.

Cover Story: KansasFest 2008

Thus ended the first full day of KansasFest 2008. With a full stomach and a happy heart to be among friends, attendees stayed up late sharing their tales and hacks, or retired, rushing the coming of another day of sessions.

Day three

Thursday's first session was given by Dr. Steve Weyhrich, returning to KFest for the first time since 2004. Curator of the Apple II History Web site, Dr. Weyhrich is skilled at preserving a variety of media, with his session focusing on digitizing and cataloging old photographs. He showed his audience how to use Macintosh software such as Adobe Photoshop Elements and GraphicConverter to touch up and tag photos he'd scanned using Epson Perfection 2400 and Canon PIXMA MP530 scanners.

Following this history lesson was a more technical one on how to use the II's inbuilt feature known as the monitor, a machine language debugger routine. The session was the first KFest session ever presented by Stavros Karatsoridis, who walked attendees through the many technical utilities offered to programmers by the monitor.

Next up was Ryan Suenaga, all the way from Hawaii. Host of the podcast *A2Unplugged*, Suenaga is also an accomplished blogger. Using his experience as author of the personal finance site *Uncommon Cents*, Suenaga presented a session "Blogging for (lots of) fun and (a very small) profit". For attendees who saw blogging as a get rich quick scheme, Suenaga warned: "The best way to make a small fortune blogging is to start with a large fortune." Though blogging is best pursued as a hobby, a popular site can often generate at least enough revenue to cover hosting fees by employing services such as Google AdSense advertisements, Amazon affiliate sales, and reader donations.

After a break for lunch, Bruce Baker presented his third annual installment in a series of sessions detailing his favorite 8-bit Softdisk games. This year's spotlight fell on the action game Coby's Dreamcap and the text-based Eamon adventure *The Curse of Talon*.

Burgeoning hardware developer James Littlejohn then took the stage for a session entitled "I have a CAD program, and I am not afraid to use it". As a designer of many Apple II cards, Littlejohn showed how he uses software to create his prototypes before making them into actual products. Even with Computer-Assisted Design (CAD) tools, prototyping can be a challenge, as

Littlejohn has experienced: "You wouldn't think that, with such a little board, you could make so many mistakes." But the frustration is balanced by the fun of working in personal tweaks and aesthetic additions. Remember, "Every board needs at least one LED."

The final official session of the day belonged to Eric Shepherd, who showed off an update to Sweet16, his Apple IIGS emulator for Mac OS X. Currently in open beta, this new version (which continued to be developed as KFest progressed) was shown to sport several new features, most notably the ability to put the emulated IIGS on the Internet using the Macintosh's Ethernet connection.

After a quick dinner, almost all the KFesters then trekked to the local movie theater. Though Friday night is the traditional night at the movies, this Thursday happened to offer a one-night-only showing of the 25th anniversary edition of *WarGames*, the classic film of hacking starring Matthew Broderick, Ally Sheedy, and Dabney Coleman (and reviewed in *Juiced.GS* Volume 9, Issue 1). The movie began with never-before-aired interviews with the cast and crew, as well as hacking celebrities of the era such as John Draper, aka Captain Crunch. Trivia revealed during these interviews brought a cheer from the audience: WOPR, a giant computer prop featured prominently in the film, was powered by an Apple II! In contrast, as the actual movie played, it went dark at one point until a brief glimpse of a Windows desktop was seen, suggesting the film was being played from a computer that had crashed and not from an actual film reel.

The timing of this anniversary, first noticed by Tony Diaz and Mike Maginnis, could not have been better. The Apple II crowd was happy to share it with others who lived the times featured in the film—even if their misadventures were a bit less thermonuclear.

Day four

Friday began with a session by Margaret Anderson. Having successfully competed in past HackFest competitions by making HyperCard do things not thought possible, Anderson showed her audience how to make their own stacks using this media-oriented database and programming tool.

Following Anderson was Geoff Weiss with an overview of the Zettabyte File System, or ZFS for short. With drive capacity doubling every 12-18 months, legacy file systems are no longer proving manageable, said Weiss, explaining why Sun Microsystem's 128-bit file

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system should become the standard with the increasingly bountiful storage of today's and tomorrow's computers.

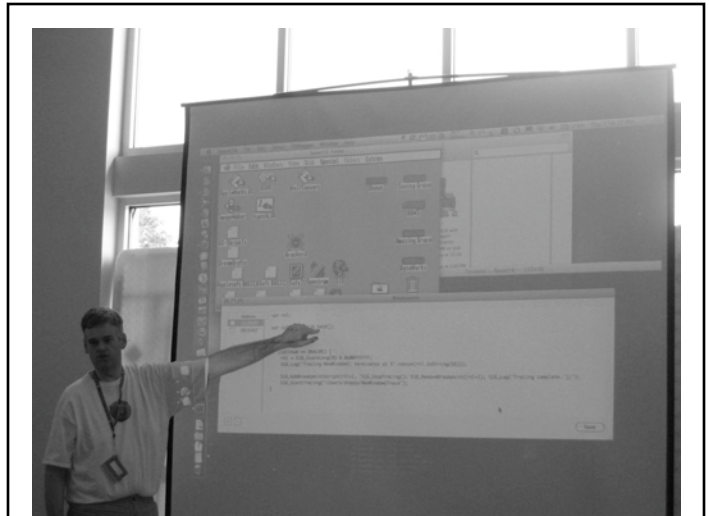
The head of the KansasFest planning committee, Tony Diaz, next took the stage to announce the reason for his recently-launched Web site, 16Sector.com: "It took longer than I anticipated—a lot longer than I wanted—but the original implementation of CompactFlash for Apple II is available again." Diaz was referring to the Focus Drive, an internal IDE and CompactFlash interface card for the Apple II that had been unavailable since its original release more than a decade ago. Diaz also demonstrated the Sirius, a RAM expansion card for the Apple IIGS.

The first session after lunch saw the return of Steve Weyrich, who again offered advice on digitizing classic media, this time of the audio variety. Not only are LPs and cassettes able to be archived, but vintage sound formats such as MOD music files can also be updated and archived using Macintosh programs like Audio Hijack Pro and PlayerPro.

Ryan Suenaga and Tony Diaz tag-teamed for the next session, which presented the possibilities of using 3G phones as cellular modems to provide mobile Internet access. Most telling was Diaz's map of the route he drove from Oceanside, California, to Kansas City. When he last made that drive less than a decade ago, cellular coverage was spotty; in 2008, no signal was more the exception than the rule, providing him with "a viable alternative to broadband in rural areas".

The last session of the day was presented by Eric Shepherd, who continued the iPhone topic with a beginner's lesson of programming for the mobile platform. As KFesters watched, Shepherd wrote a basic but functional Web browser from scratch, showing the ease with which the iPhone can be programmed. At this time, there are no plans for a public release of Shepfari.

Finally, it was time for the annual Friday night banquet. A formal affair, attendees dressed accordingly by donning their strangest or ugliest ties for the "Tie One On" contest. (Ken Gagne and his pixelated, 8-bit tie won.) After dinner was served and the tables cleared, the Celebrity Roast was on. Historically an opportunity to sarcastically highlight one person's contributions to the Apple II community, the roast deviated from that format for the past few years. This year's roast was a mix of old and new when Ken Gagne praised each attendee individually with a personal reflection, commentary, and compliment. Given the strength of the



Breaking point: Eric Shepherd shows off the tools available to programmers in his Sweet16 emulator.

diversity of the Apple II community, it was perhaps the easiest and most inclusive roast ever performed.

Following the ceremony, several attendees made their annual pilgrimage to the Apple Store. Instead of the closest retail location, a trip was taken to a new store that had recently opened in Leawood, Kansas. The store manager was so impressed to hear there was still a convention for Apple II users, he donated enough Apple t-shirts for every attendee to go home with one.

Day five

The morning of KFest's last full day was reserved almost exclusively for new product announcements, beginning with Ryan Suenaga, who responded to Eric Shepherd's infamous quote: "If you're a developer and you don't have something new for KansasFest, you suck." Suenaga's suck-free zone was created with the release of IITter, a Twitter client in New Desk Accessory (NDA) format. Twitter is a microblogging site that asks users to answer the question "What are you doing right now?" in 140 or fewer characters. Apple IIGS users can now read their friend's updates and submit their own using IITter.

More announcements were pending as James Littlejohn unveiled several hardware surprises. The ExtendaSocket is an 18" cable that allows an interface card to run from outside the Apple II case, suitable for monitoring and testing new boards. The LittleControl-Panel uses four switches and LEDs to externally moni-

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tor and control hardware functions. The DoubleSeven, codename "Gumdrop", allows two cards to be connected to slot 7, so that multiple storage media (such as both a CFFA and a Focus Drive) can be connected and chosen by flipping a switch. Similarly, the LittleExpanderPlus, by replacing an Apple II's power supply, makes room to turn one slot into four, giving the Apple II ten slots, seven of which can be active. These products and more are or will be available from ReactiveMicro.com.

Ken Gagne made the next product announcements. Esprit de Apple Corps, a two-disc set of Apple II multimedia files originally released by Ken Gagne and Russell Nielson at KFest 2001, is now available as a freeware download from Gagne's Web site.

The next products were released by Geoff Weiss. First was Mega Memory Tester, which differs from other RAM testers by not having the same 8 MB limit as an actual Apple II. Weiss' utility can also test emulated Apple II environments, which can have much more virtual RAM. Also released was an update to his Hash tool, which provides programmers with checksums

based on blocks of data. The update adds support for the MD2 and SHA1 algorithms.

And beyond...

This has been but a taste of what you can find in a full issue of *Juiced.GS*. We would love to share with you the complete KansasFest 2008 coverage, but we just do not have the space to do it justice in this sampler.

Though the sessions let users share and learn, the real draw of KansasFest is the camaraderie. Apple II users are a rare breed, and to have so many in one place and time is rarer still. The only regret this year's attendees left with was that they would have to wait another year to see each other again. KansasFest 2009 will be held at Rockhurst University from July 21st to the 26th. More pictures of this year's event and details for next year can be found at the official KansasFest Web site:

<http://www.kansasfest.org/>

It's time for another year of...

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