Taking 8 Bits to the 21st Century

The Genesis of Wheels:
A Look At How It All Came About

"There is a price we pay for having everything we ever wanted to know at our fingertips--and that price is that we have every-thing we ever wanted to know at our fingertips."
—Fender Tucker

Once upon a time, Maurice Randall bought a Commodore 64, and it came with a graphical operating system called GEOS. At first he had little to do with it. It seemed cumbersome and slow, and he didn't have much use for it. Of course, like most people early on, he only had one disk drive! GEOS is awful to use with a single drive. There really isn't much point in it.

Soon, he acquired a second drive, a 1581, and then he got a Commodore 1700 REU and found out that he could increase the capacity of this 128K ram expansion unit to 512K. He bought the chips and performed the operation. He began to take another look at that GEOS system and got so interested in it that he up-graded to GEOS 2.0. Soon afterward, he got a 128 and had to have GEOS for that. He was hooked.

Over the next several years, Maurice learned how to write GEOS programs, and he got quite familiar with the system. Back when he sent in his GEOS registration card, he filled out the little question-naire that came with it. It asked what type of applications you would like to see developed for GEOS. He filled in a suggestion about a fax program. They probably had a good laugh back at Berkeley Softworks when they saw that one! Little did he know that he would someday create that piece of software himself.

A few years back, Maurice realized a need for something better in the way of disk drivers for GEOS. Sure, that was already done, Configure had disk drivers, and gateWay had disk drivers. But there was just something there that was missing. For one, the na-tive driver support on the CMD devices was never perfected. The RAMLink was supported, but not really like it should be. There were RAMdisk drivers, but they could also be improved.

Maurice jumped in and started a new project. He began to study a couple of the existing drivers to see what there was that he didn't like. He saw there was room for improvement. So, he wrote his own variation of the drivers and adapted them to work on the CMD Hard Drive in the native partitions. Previously, only gateWay supported this type of driver. But Maurice had already created a user interface known as geoSHELL, and it was flexible enough to be used with any GEOS driver. Soon, Maurice had his own version of the native driver that he could use with geoSHELL and did not need gateWay to use it. GeoSHELL had the ability to install the drivers during bootup. He had to avoid using the Desktop, though, as it was written in such a way that it would only work with 1541, 1571, and 1581 type devices. And it was really a cobble job making it work with 1581 drives. The Desktop failed to follow certain GEOS programming rules, which caused it to not work with the native driver.

Using the native drivers was nice, since subdirectories allowed better organization of files as well as making better use of the available space. Pretty soon Maurice did a version of the driver for the FD drive and then the RAMLink. But these drivers still were not perfect. Using native partitions within GEOS was difficult, not from a user standpoint, but from the actual design of the operating system. The biggest problem was that the block allocation map (BAM) couldn't be stored in memory, like GEOS has always done it. A native BAM can be as big as 8K. The BAM is what keeps track of the sectors that are in use on the disk.

Eventually, Maurice got the idea of replacing Con-

figure. This only seemed logical since he had a small collection of disk drivers and it was Configure that has always stored and installed the drivers during bootup. But that also meant coming up with drivers for the other types of disk devices. This included the 41, 71, 81, and drivers for the FD, HD, and RAMLink using 1581 partitions. Then there was the 41, 71, and 81 RAMdisks too. Maurice took the drivers he had created and modified certain parts that were specific to the type of device that the driver was to be used with.

Then a wild idea popped in his head. OK, now we've got a new Configure, but we could really use a new Desktop. Sure there's geoSHELL, but a good Desktop was still needed. He had started on something like that a few years ago and never finished it. It was called Dashboard and was to be released for the 128. Maurice dug out the source code to it and started modifying it and changing things until he came up with something even better.

One thing led to another, and another, and another. Before you knew it, Maurice was working on upgrading the whole darn operating system. So, what began as a rather simple project of studying the problems in one disk driver, led up to a rather major undertaking. Maurice created an operating system with the feel of the old GEOS in many ways, but with a whole fresh new look to it and many new possibilities buried within.

Fresno Commodore User Group Bylaws

Some revisions in the bylaws are in order. Following is the last revision, from December 1992):

Article I. PURPOSE: The purpose of the Fresno Commodore User Group/SixtyFourum is to serve the members who are users of Commodore micro-computers.

Article II. MEMBERSHIP: The membership shall be open to all persons interested in Commodore micro-computers, and who are interested in developing its use through an exchange of ideas.

Article III. DUES: Dues shall be twenty-four dollars ($24.00) per year, per family, non-refundable. Each change in dues shall be approved in the month prior to the effective date of the change. Notice of the change shall be printed in the club newsletter and announced at least one month prior to the club vote.

Article IV. MEMBERSHIP YEAR: The membership covers twelve (12) months starting with the month joined.

Article V. MEETINGS: Regular meetings of the Fresno Commodore User Group/SixtyFourum shall be held as determined by the Executive Committee, with input from members. Special meetings may be called by the Executive Committee or the members present at any regular meeting.

Article VI. OFFICERS: The officers shall consist of a President, Vice President, Secretary, Treasurer and three (3) to six (6) Board Members. One or more positions may be combined at the discretion of the Executive Committee. These officers shall comprise the Executive Committee. All officers shall serve without compensation.

A. Terms of Office: All terms shall be one (1) year.

B. PRESIDENT: Shall preside at all meetings of the Fresno Commodore User Group/SixtyFourum including the Executive Committee.

C. VICE PRESIDENT: shall preside in the absence of the President and shall serve as program chairperson.

D. TREASURER: shall keep all books, receive and disperse all funds, and shall report at least annually to the membership on the financial health of the Fresno Commodore User Group/SixtyFourum.

E. SECRETARY: shall keep minutes of the Executive Committee, a record of the activities of the Fresno Commodore User Group/SixtyFourum, and oversee the historical files.

F. BOARD MEMBERS: shall attend all Executive Committee meetings and with the other officers oversee the business affairs of the Fresno Commodore User Group/SixtyFourum.

G. STAFF MEMBERS: shall be voluntary and appointed, and shall be allowed to participate in the decisions of the Executive Committee.

Article VII. EXECUTIVE COMMITTEE: The Executive Committee shall oversee the business affairs of the Fresno Commodore User Group/ SixtyFourum. It shall meet regularly to conduct business. A quorum shall consist of four (4) members.

Article VIII. NOMINATING COMMITTEE: The President shall appoint a nominating committee to present a slate of officers by the October regular meetings.

Article IX. ELECTIONS: Election of officers shall take place at the November meetings. At this time the report of the Nominating Committee shall be heard. Nominations may be made from the floor provided the person being nominated has agreed to the nomination in advance.

Article X. VACANCIES: Vacancies will occur thirty (30) days following notice received by the Executive Committee. Vacancies will be filled by the membership at the next regular meeting.

Article XI. FINANCES All checks shall be signed by two (2) members of the Executive Committee, at least one of which shall be the Treasurer or the President. No check shall exceed the sum of $250.00 except by a vote of 2/3 of the membership attending the regular meetings.

Article XII. QUORUM: A quorum shall consist of those members present.

Article XIII. AMENDMENTS: These Bylaws may be amended or altered by a two-thirds majority of the members present at both of the regular meetings under the quorum provisions of Article XII.

Article XIV. COPYRIGHTS: The Fresno Commodore User Group/SixtyFourum has taken the position that it is illegal to sell or otherwise distribute copies of copyrighted software or publications without the express permission of the author or publisher. Under this position the Fresno Commodore User Group/SixtyFourum specifically prohibits the sale or distribution of said copies during a meeting over which the Club has responsibility.

Article XV. DISSOLUTION: Fresno Commodore User Group/SixtyFourum shall use its funds to accomplish the objectives and purposes specified in these Bylaws, and no part of said funds shall inure, or be distributed to the members

of the group. On dissolution of Fresno Commodore User Group/SixtyFourum, any funds or property remaining shall be distributed to a non-profit organization toward the furthering of computer education.

Viruses and Commodore

Virus checking is becoming a must-do activity at every turn on for those in the megacomputer world. To fail to check for viruses is to risk the entire contents of the hard drive. And since megacomputers rely on the hard drive for every aspect of their operation, an infected hard drive passes the organism to the whole system.

For that reason, it is becoming common practice to install a virus checking program that boots along with the Disk Operating System (DOS). This germ detector searches through the entire Disk Operating System and other data on the hard drive, looking for what shouldn't be there. If it finds any microbes, it eradicates them.

This process, of course, is time consuming. And when added to the time it takes to boot the Disk Operating System in the first place, it can leave the user waiting for what seems an eternity on these otherwise lighting-fast machines. This interminable startup delay prompted one who forsook what he called the "slow-as-a-slug" Commodore to utter an unprintable remark.

A computer virus, naturally, is not organic. It is a little bit of virulent program code that wedges itself into the Disk Operating System and spreads itself throughout the infected disk to cause whatever chaos it is programmed to do. Most viruses are coded to lie dormant until a specific event occurs, like a date, time, or other computer related activity. The number of different computer viruses now

count in the thousands.

There is an interesting parallel between the real world of microorganisms and this world of computer diseases. Filthy environments provide the breeding ground for both. Just as the one plagues those who share needles, so does the other curse those who share copyrighted software. As one said, pirated software is nothing more than a painted woman offering herself as the real thing, carrying the scourge of all those who pass her around.

Viruses, as such, are not a problem for Commodore 8-bit machines. This is mainly due to the fact that the disk drives used, including hard drives, rely on a ROM-based Disk Operating System. ROM, being Read Only Memory on a chip, cannot be changed. Therefore, Commodore's Disk Operating System cannot be infected.

MS-DOS, Windows, etc., on the other hand, are themselves programs. They reside on the hard disk. Hence, infecting the Disk Operating System with the nefarious coding not only affects the whole machine, but allows its spreading to everything coming into or going out of the machine.

However, there are a few dirty tricks to which Commodore users are susceptible. One such nasty is a countdown routine hidden in a program that causes the disk to be unexpectedly reformatted. But these mean-spirited shenanigans are limited to the programs in which they reside and imperil only disk in the drive.

Other malevolent schemes designed to wipe out

files or corrupt data do exist. And some of these do have the ability to copy themselves to any disks used in conjunction with the disk containing them. Again, though, that is the limit of their viability. The spurious coding dies at turn off, and it cannot resurrect itself until the disk containing it is again used.

The foregoing should not alarm anyone in the Commodore community. Besides the built-in immunities inherent with the Commodore Disk Operating System, the reprobates given to inventing such maladies no longer find any satisfaction afflicting the beggarly world of Commodore. They have mega-fish to fry! Hence, most of their dirty work has long since seen the light of day and been eradicated.

A related benefit is that during the same time users uncovered the mischievous deeds, the bugs that invariably accompany initial program development and new equipment designs also came to light. As a result, the critters whose tracks and droppings make for messy use are all but nonexistent in today's popular programs. To a slightly lesser extent, the insects crawling around inside Commodore equipment have also been exterminated. And as for the surviving bugs, today's programs for the most part avoid them, making them of little consequence. Commodore users, therefore, operate in a relatively virus-free and bug-free environment. That makes for a generally healthy computer experience. And, like good health, the worth of this blessing is fully appreciated only by those who don't have it.

(Compiled from various sources; reprinted from The Gazette, newsletter of CIVIC 64/128 User Group, Oxnard CA)

"Commodore users operate in a relatively virus-free and bug-free

The Nine Lives of Commodore

by Dick Estel

You=ll find this does not cover all nine of the lives mentioned in the title--because Commodore has not yet reached it=s final life.

First Commodore was a "low cost" home computer, priced around $600, well below the thousand or more required for a Radio Shack or Apple product about the same time.

Next the price dropped substantially, with the bottom retail store price in the neighborhood of $150 to $200 for the C-64. During this incarnation over ten million C-64's were sold worldwide. At the same time the disrespect that Commodore has suffered ever since began, with the epithet of the day being "game machine." Part of this was due to the fact that Commodore was in fact the best game machine around. IBM had crude graphics and no sound other than a pitiful "beep."

Then came the decline of Commodore the company, which stayed away from the pattern of innovation, advancement, and obsolescence marking the rest of the PC world. In its final years the company gave birth to another excellent, non-compatible machine, the Amiga. With the demise of the company, Commodore entered the "orphan" phase.

But there were plenty of "foster parents" willing to continue to care for their machines. User groups became the primary method of support.

Soon Windows arose as the primary force in the PC world (borrowing liberally from Apple who had borrowed from Xerox). At this time Commodore became "obsolete."

This seems to have been the status for the last five or six years, even as unsung heros labored to drag the Commodore into the 21st century with RAM expansion, hard drives and processor speed-up hardware like the Super CPU.

Now Commodore seems to have entered a new life era. I=m not sure what to call it, but possibilities include "venerated classic," "historic curio," and "tool of unrepentant neanderthals." This phase is marked by a strange interest in these "archaic" machines by the popular mass media. Last summer a positive and respectful article appeared in the New York Times. At the Vintage Computer Show in Santa Clara, Robert Bernardo made contact with people from several publications, which has led to some activity by *Wired* magazine, which usually has its compass pointed unwaveringly to the future. *Wireless* has interviewed Robert, programmer Maurice Randall and others, and conducted a photo session with Robert in early January.

At the January meeting Robert showed us a Canadian magazine, *Shift*, which is kind of a *Wireless* for the great white north. It had an article on the Vintage Computer Show and featured Robert=s photo in the table of contents as well as the article, along with a half dozen other pictures from the show.

I myself received a call from The Fresno Bee to ask about "people who use old computers." This culminated in an article in The Bee=s "Neighbors" section, which is sort of an attempt to print a folksy small town newspaper for various regions of our metropolis. The article featured a photo of an Amiga (Commodore=s "other" brand) and its proud owner, along with comments from Amiga users, a brief nod to Atari, and my own comments on the state of Commodore.

Let=s see, that=s about five lives. So I guess we have at least four more to look forward to as we plunge headlong into a new century. A good time

What the Editor Said

A Paperless Society?

We are now nearly three decades into the home computer era. Yet the paperless, cashless, electronic society this "revolution" promised seems nearly as far away as ever.

For example: I have a dozen or so bills that I pay monthly, semi-monthly, quarterly, semi-annually or annually. Only about half of these are done by some form of automatic funds transfer. One of these was the phone bill, which used a pay-by-phone system. This required a phone call each month that took as long as writing and mailing a check, but it did eliminate the licking and sticking and the 33 cent postage cost. Now this bill is deducted directly from my bank account.

I pay my car insurance bill via the Internet. When I started a few months ago, I had to enter all the numbers on my check, with characters such as # @ and & replacing the computer symbols that are part of the routing number. I had to look at a key to determine which character to enter. When I made my first payment after the latest renewal, this requirement had been eliminated. So there is progress.

I have a first and second mortgage on my home, both negotiated with my employee credit union. The first one was transferred to a third party, and is paid by payroll deduction. The credit union will not accept payroll deduction for the other one. Instead I must write a check each month and mail it to the credit union where my payroll check is deposited. Go figure.

> —Dick Estel

I've Got Five Dollars and It's Saturday Night

It's getting easier to give money away again; we only had to draw two names in December to find a winner. Dan Rowland lost out, then Doug Cunningham's name came up, rewarding him richly for one of his rare visits to our meeting. In the new year, it was even quicker--Chester Sohm won on the first spin of the wheel.

FCUG Financial Report
January to December 1999

Balance as of 12/1/98: ..$1234.50

Income in 1999

Dues	$264.00
Raffle	99.00
Miscellaneous Sales	7.30
Disk of the Quarter	4.00
Donation	10.00
Auction	42.00
TOTAL	$426.30

Expenses in 1999

Interface (print & mail)	$372.46
Member drawing (cash)	40.00
Postage (cash)	52.84
Miscellaneous (cash)	10.00
Picnic: Food & Supplies	45.88
Door Prizes	51.74
Commodore World	32.95
Computerfest Fee	100.00
TOTAL	$705.87

Bank balance: $919.86

Scape

by Robert Bernardo

I was in the same boat as a lot of Commodore on-line users at the end of 1999. In October Delphi announced that they were pulling the plug on all text access to their online service via local phone numbers or dial-ups. By December 31 the nationwide dial-ups through Sprintnet or Tymet would disappear. After December 31 the only way to get into all the text services of Delphi would be to telnet in through another independent service provider (ISP). The only consolation for losing my local dial-up was that Delphi would reduce its rates; previously I had been paying $10 a month for 4 hours of time; now Delphi would offer telnet members a yearly rate of $34.95 with unlimited time.

I wanted Delphi in order to access their Commodore Forum bulletin board (which had important messages from the likes of Maurice Randall, Wheels programmer), to utilize their small C= library of 3,000+ files, and to read the Usenet group, comp.sys.cbm, with their news reader (which I preferred to others).

Though other users would have trouble finding a local ISP which supported a Commodore telnetting into Delphi, I thought I wouldn't have any problems. I also belonged to the Genie online service, and I would be able to telnet into Delphi through Genie. At the C= Forum, the members complained about not being able to easily access the service anymore. If they couldn't get to Delphi, they'd have to drop out.

However, my smugness disappeared when Genie announced at the beginning of December that they would do away with their "old" service in favor of "new" service. The old service was especially for text-based computers, like the Commodore.

There was the Commodore Roundtable with its own bulletin board, discussion (chat) groups, and download library of 17,000+ files. The new service would be more friendly toward computers with graphical browsers, like PC, Mac, and Amiga, though Commodore would still be able to access it. However, the fly in the ointment was that Genie would discontinue most of their nationwide dial-ups; most Genie phone numbers would disappear as would their alternate connections via Sprintnet. Supposed reasons ranged from needing to use faster lines to Sprintnet not being Y2K compliant. Here in California, the only local Genie numbers would be centered around the Los Angeles and San Francisco areas--not good for users in the rest of the state and especially not good for me.

Genie was my main service. I received nearly all of my e-mail through Genie. I made good use of the download library to get files to fill up the disks-of-the-quarter for the Fresno Commodore User Group. I surfed the Internet through the Lynx text browser at Genie. I chatted online with fellow Commodorians who were serious about the use of our fine computers.

All of this was to change on December 27. At first I thought I could stay with the new Genie. Long distance phoning to the nearest Genie dial-up would cost me five cents a minute in addition to the new $19.95 a month fee with unlimited time. However, as the fateful day approached, I became more and more disenchanted.

I personally telephoned a Genie service tech and asked him about the new service. He assured me that I would be able to still use my Commodore with Genie. The e-mail program would be different. My e-mail address would be different. Then I asked the important question. Would the Commodore download library be transferred to the new Genie? His reply: "We're still thinking about it."

Huh?! The new service had been in use for the last two years... and still no plan to bring the library over? The fates of the other download libraries of other computers were probably still in the air, too --the Apple II library, the Amiga library. All of these to be lost! It was a replay of the bad memories of the QuantumLink library of 40,000+ C= files and the Compuserve C= library disappearing. "Still thinking"? Shocking!

After this bad news, I thought that I could hang onto the service for at least three months to give them a chance to transfer the library. I still wanted to sign up for the new service, but Genie threw another monkey wrench into the process. Because I didn't have a local Genie number, they wanted me to sign up through their long distance service at nine cents a minute and dial into only one phone number. I travel around California, and I needed access to my service wherever I went. That meant I needed to use any Genie number that was closest to me. In that case, they wanted me to sign a waiver, absolving Genie of all long distance charges I may incur. Only when the waiver was signed could I finish the sign-up process.

This was a strange way of doing business, but I duly waited for the form to arrive in the mail. The extra days of waiting gave me extra time to think about what I was doing. At the Saturday night chats at the Genie Roundtable, my e-friends were incredulous and anxious. They had the same feelings as those members at Delphi. If they couldn't access the new Genie easily, they'd drop out. If they couldn't easily get together to chat, they'd drop out. If the download library were not in place, they'd drop out. Cincinatti would have a local number but not Muskegon. Canada would be left out entirely.

At every chat prior to December 27, the talk was the same. Any new news? Any more local access numbers? We exchanged alternate e-mail ad-

dresses several times, some complaining that the alternate would have to be accessed with a non-Commodore computer. I was still holding out hope. I had sent in my waiver, and December 24 I called Genie to finally finish signing up. Customer service had left early for the day. Tech support was still there, but they couldn't do anything and advised me to call Monday. That was lousy! The final chat on Christmas night brought more bad news. Even the new phone numbers for the new Genie weren't working right. People would key in their user name and password and would still be locked out of the system.

That did it. I gave up on Genie. I called JPS Net; they advertised text-based, shell accounts for older computers, good rates, and dial-ups throughout California and other western states. With Gaelyne Gasson's book, The Internet for Commodore 64/128 Users, in hand I quizzed one of their support technicians on the intricacies of their system. Though he had to put me on hold several times (probably to find the answers to my questions), I was satisfied and signed up. My worries were over. I'd have e-mail, Internet access, and news reader functions. Beeeep, wrong! When I dialed into their system, I keyed in my user name and password and then received a startling message, "PPP dialer starting..." No! Commodores currently don't understand what to do with this protocol; PC's, Macs, and Amigas do. I tried several times and received the same response several times. I finally called the techs at JPS and asked what was going on. They sheepishly admitted that I could get to the shell only after logging on through the PPP dialer. I reminded them that my older computer didn't understand PPP and that I'd have to access the shell directly when I logged on. They responded that wasn't how their system worked. Needless to say, I dropped their service immediately and was not charged.

I had one other chance. Bill Webster, Genie e-friend of the South Bay (San Francisco) region,

told me that ValueNet had text-based shell accounts, and he gave me a phone number to call. December 27 I called, and to my surprise, the sales representative was sympathetic and supportive. I asked him if they offered shell accounts. Yes. I asked him if I had to cross any strange PPP barrier. Definitely no. He asked me what computer was I going to use with their system. A C-128D. He was excited and amazed that Commodores would be using their system. He wanted to know more about the capabilities of our machines. I briefly explained about CMD hard drives, JPEG viewers, the SuperCPU, and the upcoming Wave graphical web browser from Maurice Randall and partners. He was fascinated and explained that when the Wave was ready, I could sign on for a "combo" account which would give me a text-based shell and a graphical account for one low price. He transferred me to their tech, C.J., who was versed in older computers and ValueNet's shell accounts. C.J. knew his stuff. He answered all of my specific questions, and he remarked that they had older PC DOS, Ataris, and Commodores using their shell account.

I signed on. Out of their various payment plans, I accepted the 3-month plan for $55, and that gave me unlimited time and a 10 mb. online workspace. ValueNet has local dial-ups throughout California but not in other states. At the end of 3 months, if I'm fully pleased with their service, I'll choose either the 6-month plan for $100 or the 12-month plan for $150.

Though it took a day for them to work out the bugs in signing me up into their shell account, my phone calls to the sales reps were always very courteous and helpful. In fact, it was far easier to reach the reps than C.J.

With my new service, I've been learning the ways of the Pine e-mail, the Tin news reader, a more modern Lynx text web browser, FTP (File Transfer Protocol), and other details. The text-based account with ValueNet is not totally a shell. With a shell you might be given an input prompt and nothing else. Then you'd have to give commands on that command line. Upon logging into ValueNet, you're given a menu with choices like e-mail, news reader, Internet tools, file transfers, file system functions, and a shell. Fairly easy but even more so with Gaelyne Gasson's book to guide me.

Every day I become more proficient in using the system. My Genie e-friends are now being directed to a Sunday night chat on the Internet, and for the most part, we're back together again. And all the Genie C= files are not totally lost; David Witmer (a.k.a. Snogpitch), president of the Cincinnati Commodore Computer Club and former Genie chat host, saved them all to floppy and ZIP disks, the only problem being that they are not accessible online. The new millennium dawns, and I'm still online with my Commodore. Things are looking up!

Value Net Internetwork Services, Inc., 2855 Mitchell Dr., Suite 105, Walnut Creek, California 94598, U.S.A.. Phone: 925 943-5769 E-mail: info@value.net Website: www.value.net

The Internet for Commodore 64/128 Users, available from: VideoCam Services, 90 Hilliers Rd., Reynella, SA 5161, Australia. Phone: 61 8 8322-2716 FAX: 61 8 8387-5810 or 707 897-0676 (USA) E-mail: videocam@videocam.net.au Website: http://videocam.net.au

Also available from Loadstar, J & F Publishing, Inc., 443 Gladstone Blvd., Shreveport, LA 71104, U.S.A.. Phone: 318 868-8727 E-mail: fender@loadstar.com Website: www.loadstar.com

David Witmer -e-mail: snogpitch@prodigy.net