THE EDITOR'S GODZILLA

by Lenard R. Roach

AFTERGLOW BY MONITOR LIGHT

This piece I find particularly hard to write, even though it has a happy ending, but oh the darkness we traveled!

This story has a religious as well as a computer aspect to it. When I first told the story for a Christian publication leaving the computer stuff out of it, it was rejected for "not meeting our criteria." Okaaay. Now, I'm going to try and retell it again, this time leaving the religious stuff out of it and focusing on the computers. No, this is not a ...

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10 PRINT"CHILD, I SAY UNTO YOU, RISE
AND BE HEALED."
20 GETA$:IFA$=""THEN20
30 IFA$="RISE"THEN60
40 IFA$="NO"THEN70
50 GOTO20
60 PRINT"BEHOLD THE POWER OF THE
COMMODORE!"
70 PRINT"TOUGH LUCK, PAL."
80 END
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... but a story about a family come together in a crisis, the healing process that ensues, and the

machine that may have inadvertently helped along the way.

During the eleven months that Gabriel was in Children's Mercy Kansas City from the middle 2004 to the beginning of 2005 while being treated for AML leukemia, he had access to his very own office-style computer. Back then, each room in the Hemotology/Oncology clinic had a desktop computer and a game console. The big gaming device back then was the Nintendo Cube with its 500 megabyte mini game disc. Sadly, the only game available in each Cube was Super Mario Sunshine and there was no way to change the disk in the system without calling maintenance to unlock the clear plastic box the Cube was housed in and change the disc. To make matters worse there was no way to save your progress to the external storage chip because, well, none were available. So, with that layout all the kids in Hemotology/Oncology had to do between treatments was watch TV, compute, play the same game over and over again, eat, and sleep. Wait, they do that now ....

To add to the electronic mayhem there was a Nintendo 64 and monitor that was on a roll around cart. This machine went from room to room at a child's request to grant a little variety in platforms. Mom and I were privileged to actually "live" at the hospital while Gabriel went through his treatments, so who was I to not invite my computing buddy, the Commodore 64 and 1541-II disk drive? I got tired of watching "Kim Possible" marathons on the Disney Channel, and I thought the break might do me good. Come to find out the break was good for Gabriel, too.

During this season of life the Roach family were subscribers to "Loadstar" disk magazine. With each issue of "Loadstar" Dave Moorman had a "Game of the Month" disk along with a separate disk containing the latest Commodore news. During our jaunts with the roll about Nintendo cart I would disconnect the Nintendo 64 console

from the monitor that so happened to be well bracketed to the cart and cable up the Commodore 64. Gabe would play the "Game of the Month" on the C64 during the day and while he slept I read the articles on the disk at night. This kept us going as father and son during those hard times.

One particular month in 2004 I got "Loadstar" in from Mr. Moorman in our mailbox at home and brought it directly up to Children's Mercy without even looking at the contents. I would let Gabe have the privilege this time, which I did. I entered his room with the daily mail and disk in hand. I gave the disk to Gabe who, in turn, when he loaded to disk's contents into the Commodore's memory, he went right to the "Game of the Month" subroutine. Listed on the screen was a small collection of games, but one in particular caught both of our attention: Arkanoid.

"I remember playing that game back in my arcade days, son," I said in comment. "It's pretty tough. I never got to the end of it because I don't think it has an end."

"So it just keeps going on and on forever?" he asked me. "Can we play it now?"

To our good fortune that day we still had possession of the Nintendo 64 cart in the room, so I did what I had done dozens of times before – hooked up the Commodore 64, plugged the Sega Genesis controller into Port 2 of the machine with an extension controller cable, which came from The Great Hairy One's massive Commodore hardware collection and handed Gabe the controller. He took it from me and with lightning speed pressed the B button. Quickly the Commodore came to life, We booted this particular disk and after a few minutes this old memory of mine on how to play the game came back as Gabriel started to get into game mode.

For those unfamiliar with Arkanoid, it is a simple, pinball-style game where the player uses his

"ship" to bounce a ball against a barrier of bricks. Some bricks have special bonus perks in and, when hit, release those perks in the form of a Tylenol-shaped capsule. If your ship catches the capsule, you get the bonus. Some bonuses are like multi-ball, capture the ball, elongate the ship, and other amenities. If a ball passes by your ship, you lose a life. Three passes of the ball total ends the game.

Gabe learned quickly how to master the ball in play and for good reason. Some time ago, when RUN was in publication, the magazine released a type-in program called Colorout which played a lot similar to Arkanoid, but offered no perks. The player just bounced a ball against a barrier and tore it down. The big difference between the two was, in Arkanoid, when you finished a level, there was a least a five or ten-second bit of musical celebration while in Colorout the next screen popped up on the monitor so fast that you didn't even have time to breathe before the next obstacle was placed on the screen. An unaware player would instantly lose a round due to that particular feature.

Gabe and I had a chance to bond over Colorout, Arkanoid, and other games for the Commodore 64 during those turbulent times when he wasn't feeling the severe effects of the chemotherapy. When he was going through a hard time and mainly sleeping the hours away, my then wife and I would just stay close by. She would read the latest religious novel that she could find at the library while I worked on the Commodore trying to code something that would be of some good use to Commodore users in general. I should mention that I was blessed enough to code The Envelope Addressor (TEA) while waiting for Gabriel to go through his five rounds of chemotherapy. When Gabriel was feeling better between treatments, he would wind his IV lines and tubes into a small lasso, carry them over to where I was sitting and programming, sit down next to me and help me by coming up with new

ways to code certain subroutines to make them run smoother. He was also learning how to assemble hardware in towers, working in BIOS, and uploading Windows to computers. He had to learn since all the patients before him downloaded a million free games onto the desktop in that room and with that download came a virus or two. The poor IT team at the hospital couldn't keep up with all the infected computers, so at least Gabe learned to fix his assigned machine.

Even with all the gaming and programming, we all needed to do some "mental calisthetics" once in a while. Since having a Commodore 64 and 1541-II disk drive in the room with a patient, it worried the nurses about any power drain in the room. I knew that bringing up the possibility of adding a 9-pin dot-matrix printer to the mix might send things into crazy, so we booted up a copy of "Speedscript 3.0" and brainstormed over story ideas for Ryte Bytes, the newsletter for the Kansas City Commodore group, and even typed up a few skits for Sunday School, and a major two act play for the adult class at church, which was turned down for lack of backing. Oh well, we have a free press for that now.

Dear reader, despite those dark days in 2004 and 2005, we all at the little home in Kansas City made it through and our having something as simple as a Commodore computer to get a break in the mundane and make the recovery time for Gabriel a lot smoother for us all.

NEXT issue

The Next Issue Of "The Interface"
Should Be Delivered To The Club
No Later Than …

November 15ᵗʰ, 2018
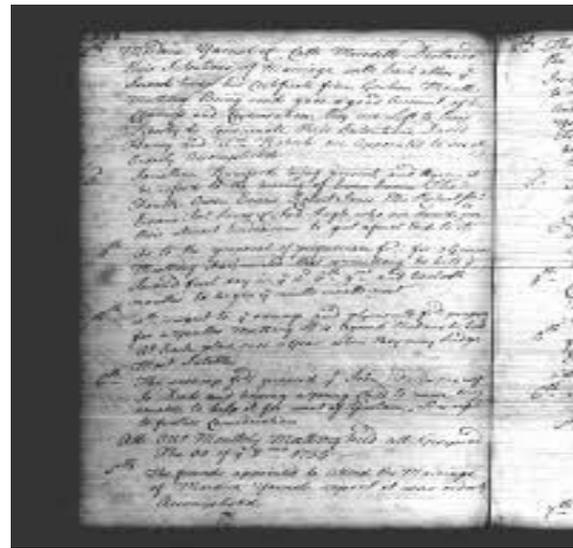
MONTHLY MEETING REPORTS

by Dick Estel & Robert Bernardo

July 2018

The July meeting drew a good crowd – Robert, Roger, Dave, Dick, Brad, and his daughter Katelyn. Dick had brought part of the club's disk library, including the educational section, and we immediately put Katelyn to work testing some of these programs.

There are 72 disk sides with educational programs, most of which were originally created for the Commodore PET. They are fairly simple programs, all in BASIC, but with a wide variety of subjects and age levels. Since none of us but Brad knows what today's fifth grader knows, we asked Katelyn if she was familiar with negative numbers, adverbs, and a couple of other subjects. The adverb program offered a sentence with multiple choice answers, and she did well but soon grew tired of it. A few of the listings offered two or three words that would have fit the sentence, and it was necessary to glean hints from the context.

After trying and abandoning a quiz on negative numbers (with complex sign sequences such as 50 - -5 + +5 - +6), she enjoyed the more basic math quizzes. Library disk copies are available to members at no cost at the meeting (blank disk required) and can be mailed for the cost of a disk and postage.

Robert handed out the two latest copies of the Interface, and we again were reminded of our debt to Lenard Roach for producing this publication from far off Kansas City.

Robert has ordered the newest Commodore computer, the Ultimate 64, and the first production run has begun, with delivery expected soon. This is a modern board with the usual Commodore connections plus HDMI and fits into a standard C64 case (not specified if it's the original brown, the later white, or both).

With CommVEx 2018 coming up August 11 and 12, Robert planned to film several demonstrations with Roger that evening at a local hotel (renamed Bernardo Studios for the evening).

We viewed part of a You Tube TV show with the "8-bit Guy," featuring an interview with Bill Herd and a look at the C16 and Plus-4, with analyses of the pros and cons of these now-obscure machines. The second half of the show will be viewed at the August meeting.

We then loaded up a German language CAD program, Giga-CAD, whose menus proved a bit challenging. Roger was familiar with this type of program and was able to load existing graphics from the disk and even draw a little. We learned the German words for "on" and "off" ("auf" and "aus"). The user should be able to rotate the drawing in any dimension, but we did not figure out how to do that. Roger may try this at home.

Another German language program, Amiga Demomaker, stymied us completely.

For the C64, we played a new version of Monopoly, which was touted to exactly follow the game rules, and Exploding Fish, which had no exploding fish! To satisfy Robert's flying needs, we also played with classic games, FlyerFox, Falcon Patrol, and Falcon Patrol II .

To finish off the meeting and in honor of World Cup football (soccer), we tried out the VIC-20 game, ASCII Striker, which was a simple-looking program in which you had to shoot goals. We then tried the VIC-20 game, Escape, which was supposed to be a top-down game of a spaceship flying through corridors. Robert likened it to be more of a tank game, because the sprites looked like tanks.

August 2018

The end of summer meant that less members were at the August meeting, the absent members probably enjoying the last days of their vacations. Only Robert and Roger were in attendance. However, the low attendance did not stop the two of them from carrying on with the meeting as usual.

After setting up the club's Commodore 128 system and Robert's Amiga 2000 system, they ordered food, and soon they were deep into discussion. Robert spoke at length about the Aug. 11-12 Commodore Vegas Expo – the pre-show happenings which included meeting/speaking to Las Vegas C= enthusiasts, setting up all the equipment, running the show on Saturday and then Sunday, finding support from the Southern California Commodore & Amiga Network members who attended, relating his impressions of the raffles and the gaming, and talking to the hotel for a 2019 show. Robert passed out a leftover CommVEx gift bag to Roger, and Roger was surprised at the variety of Commodore and Amiga items in it. Unrelated to CommVEx, Robert also gave a reminder of the upcoming October Amiwest Show in Sacramento.

For a few minutes, Robert and Roger looked at one of the videos presented at CommVEx – the video of Roger describing the use of certain C64 software with a C= wi-fi modem. Of course, Roger didn't want to see too much of it (because he had already presented the technique in front of the camera), but Robert wanted to prove that with good editing, the many mistakes during the actual filming could be erased. Also, though the video looked dark when seen through the camera viewfinder, it came out perfectly exposed when shown on a t.v. screen.

For the software part of the meeting, Robert had brought the SuperCPU 128 so that he could easily run the 3D Construction Kit game, A Chance in Hell. Unfortunately, the club C128 did not boot with the SCPU, only showing a black screen in 40-column C64 mode. Switching the SCPU from 20 MHz to 1 MHz did not solve the problem. Robert retrieved his C64C out of his car and set it up. Then he tried the SCPU with it. Again a black screen. Roger sprayed some DeOxit on the connecting edge of the SCPU, hoping that the chemical would clean the contacts. Some black oxide was wiped off, but that didn't cure the SCPU problem. Without the SCPU working, Robert didn't want to show the game running at the normal C64 speed of 1 MHz; it would have been unbearably slow.

Roger had brought the German C64 CAD program, GigaCAD, again, and though the SCPU would have helped make the program run more smoothly, Roger felt that even at 1 MHz he could show off what he had learned in the one month since he had been using the program. Then he went into an intense explanation of how the program worked, how to design objects, and how to render them in 3-D. Robert was very impressed, so much so that the rest of the meeting was devoted to GigaCAD, and the Amiga 2000 was ignored.
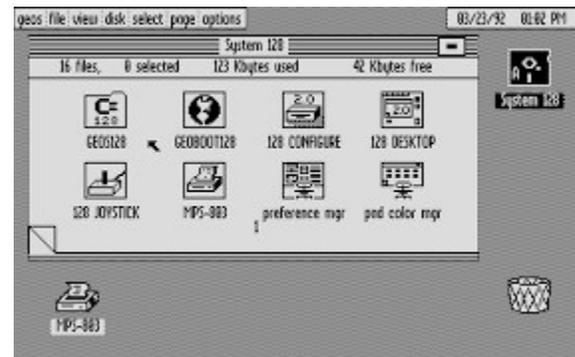
GEOS: The Graphical Environment Operating System

Part 2

by guest contributor Kroc Camen

(Continued from the last Interface newsletter)

4. Configuring GEOS
4.1 Hardware

GEOS must be told which drives you have connected. Double-click on the 'CONFIGURE 2.0' icon on the deskTop and you are presented with a simple screen with options for the different types of drives.

Here, two disk drives are attached and a 512 KB RAM expansion. The 'shadowed' option appears so that you can use the RAM expansion to facilitate disk copying and speed up GEOS. (Not that this is a problem in an emulator, but the disk drive could be very slow at times). It is a known problem that a hardware bug ended up in the read speed of the disk drive being much slower than it should be. Programmers relied on 'fast-loaders', essentially decompression software loaded into the disk drive's RAM & CPU, to speed things up again.

4.2 UI Customisation

The application 'preference mgr' on the first page of the GEOS boot disk allows you to customise some basic UI Settings.

The sliders allow you set mouse acceleration and speed. If you were not the proud owner of a mouse for your C64 (hands up those who had a mouse for their PSX?) you were stuck using a joystick to navigate the UI.

The C64 has no built in battery and is unable to maintain the time between power resets. On a normal C64 you would have to (if you could be bothered) set the time every boot by selecting the 'Options' command menu and selecting 'set clock'. The emulator I am using (Power64) has excellent GEOS support and sets the clock for me. If you purchase a FD-2000 floppy disk drive or RAMLink cart from CMD, you could also add an optional extra to the configuration - a real time clock chip, allowing GEOS to keep accurate time.

Interestingly, GEOS lets you edit the mouse pointer directly in a fashion very similar to how you could change the desktop pattern on the original Mac.

The small squares next to 'Border', 'B.Ground', 'F.Ground' and 'Mouse' can be clicked to cycle the colours (out of the 16 available) for that element.

If this is supposed to be a monochrome UI, how is it doing the colour here? As stated before, the mouse (and those sliders) are hardware sprites, composited over the monochrome bitmap data, but the C64 has more tricks up its sleeve.

Though the bitmap data in memory is monochrome, the C64 could set the background and foreground colours to draw the bitmap with. Here as the light grey and dark grey combo of GEOS.

In addition to this a 1 KB section of upper memory representing a 40x25 character gird let the computer assign changes to the chosen monochrome colours in each 8x8 pixel character.

The Preferences Manager 'Window' effectively aligns perfectly within the 40x25 grid of characters, so that the colours underneath could be changed using the colour map. The one byte that represents the colour under one of the 8x8 pixel characters is divided into two nybbles of 4-bits. Each of these nybbles can store a number from 0-15, representing the 16 available colours, and thus the Foreground and Background colours to use for the graphics in that character square.

5. Productivity
5.1 geoWrite

Probably the most important application of an OS is the Word Processor (and now, arguably the web browser). Long before GNOME & KDE was G-Naming everything with odd letters, GEOS was naming their productivity apps with geo-Something.

geoWrite takes up a dangerously large 35 KB. You are also provided with 7 fonts of decent variety, but Berkeley Softworks also made available an add-on font disk with 53 extra fonts. When you start the app you are presented with a simple dialog. You can also double click on geoWrite documents in the disk note pad and geoWrite will automatically load them.

The geoWrite interface is extremely simple. There are no scrollbars, you simply jam your mouse against the top or bottom of the screen and the page scrolls.

At the end of the menu strip is a page with a black rectangle representing the current visible portion of the page on the screen. By clicking the rectangle you can move it to another part of the

small page and the view in the main window will jump to the relevant location.

1 MHz is barely enough to redraw an entire screen in under a second, so scrolling is naturally, very slow. Scrolling up the page is far slower than scrolling down. However selecting text is very responsive.

Once some text is selected you can either click the small squares below the ruler to set justification or line spacing, or explore the menus.

Not all the fonts come in any size. Each font has a select list of sizes depending on the font and some have only one size. Whilst this may seem a problem it is really down to the very pixellated and low resolution screen. All the fonts are very carefully designed for maximum readability on the screen and on a printed page. If any size were allowed, the pixels would mash together at certain sizes making most letters illegible.

Considering the low resolution of the screen, the provided fonts are of superb quality, providing a perfect mix of serif and non-serif fonts with lots of variations on letter widths, curve styles and clarity. For a word processor, this is probably the best set of provided fonts given the hardware, for any word processor. There are enough sans-serif professional fonts that look great at all sizes, as well as a couple of fun fonts for those wanting to experiment. A great lot of care has gone into providing for both the business user who wishes to impress their clients with professional typesetting and the home user who wants to make a fun-looking flyer.

The style menu lets you select between Plain Text, Bold, Italic, Outline, Underline, Superscript and Subscript styles. The interesting Outline option even works on the most complex of fonts. This feature is not seen in any version of Microsoft Word, or any word processor that I'm aware of, outside of the classic Mac and GEOS.

(Likely because the transition from Bitmap fonts to True Type and Postscript fonts)

5.2 A Cautionary Tale

GEOS, like other alternative OSes, is dependent on certain hardware. GEOS might not compare with BeOS, RISC OS, or even Amiga OS for features and power, but it is easy to run today on any PC/Mac, and free.

There are also great disadvantages to this as well. Running GEOS on a TFT doesn't compare to running it on a TV or old monitor. The chroma blurring on the C64's rather weak RF unit caused the dithered background to look like yellow and white bands going down the screen.

This very problem was used to an advantage in some advanced C64 games, where certain colours could be dithered to create seemingly new colours. Nearly 52 colours could be faked using this method. This of course is not actually ideal in an OS where clarity is what's needed, but it does help to explain the dreary greyness of GEOS, which would look significantly different and softer on a TV.

"Nothing compares to the real deal" is an important adage in any review of an alternative OS. Whilst those that have not used GEOS first hand, or extensively played the C64 will look at GEOS's monochrome, low resolution graphics and laugh at how it doesn't even compare to Windows 3.1; I personally see wonderment in how a 1 MHz computer with such little RAM can do so much.

After all, most games on the C64 could not afford to use the bit-mapped graphics mode as it was too slow. Thus the great variety and flexibility of geoWrite's display is completely unseen outside of the most hardcore demo-scene disks.

Putting a disk in to a real C64 and hearing that loud clunking and whirring as 250 bytes per second come down the serial bus is not the same as a little blinking light showing disk activity in an emulator.

5.3 The Real Deal

Therefore, I have hooked up my Commodore 64 and booted the real GEOS.

I could continue to detail every function of every app in the OS but I don't think that will add anything more useful. GEOS is an impressive technical feat, and at least a 'good-enough' OS considering the hardware and the price. GEOS couldn't compare to the original Mac OS because of such vast differences in power. (The original Mac was 32-bit and with 128KB of RAM)

5.4 Other Apps

A Word Processor and Paint app an OS do not make. GEOS is very fully featured; it would take far too long to go into great detail over GEOS's other apps. But what I will do is list them with a basic overview and you can either try them on an emulator, or imagine for yourselves!

geoCalc was the Excel (or rather VisiCalc) of GEOS. The view can be split into two so you can edit two parts of the spreadsheet at the same time as well as supporting a host of functions for calculating data. Due to RAM limitations graphing was handled by a separate program that you could paste your spreadsheet data into.

geoChart can show that data in impressive charts that can really make that data speak. With text-mode fully out of the window, the data labels always lined up neatly and there were many ways you could present your sales figures.

geoFile - A Very 'MS Access' like database application with the ability to design input forms and also mail merge to geoWrite.

geoPublish is the largest GEOS application I've seen. A serious desktop publishing program supporting master pages, text orientation, patterns, shapes, guides and rulers and all the basics. A busy page is very heavy on the little computer so two disk drives and a RAM upgrade is a bear minimum to do any serious work. geoPublish is still being used by the most die-hard GEOS users.

6. Modernizing GEOS

If there's one thing a Commodore 64 can't do, it's nothing.

Thanks to the rather hardcore followers of the C64, various tasks have been performed on a C64 thought impossible, including real time 3D graphics, viewing JPGs, hosting websites and of course -viewing them.

At the same time, supporters of GEOS have improved upon GEOS creating new derivative operating systems. 'Wheels' is one such example of this. Wheels is an add-on for GEOS 2.0 that adds multi-tasking, support for more hardware (including hard disks and RAM expansions up to 16 MB) and new UI with multiple movable, resizable windows whilst keeping backwards compatibility with GEOS apps.

Wheels requires at least 128 KB RAM expansion and ideally a 20 MHz upgrade with as much disk space as you can throw at it. Even browsing the Internet is not outside the limits of Wheels, 'The Wave' is a browser with hefty requirements but nevertheless shows that it can be done.

7. Where Did GEOS Go?

For an operating system second only to Mac OS, and surpassing Windows, where did it go? How can it be so forgotten now?

GEOS on the Commodore platform faded out for a number of reasons:

The IBM Standard

The PC platform had a larger capacity for upgrades and peripherals. The Commodore was already largely dated hardware by the time the 90s rolled in. With the growing complexity and power of applications, new hardware was needed - and the PC as a more modular system could grow with new
innovations. However, the Commodore 64 / 128 were stuck in time, much like a games console, something that the C64 had become in the end.

Commodore's bad management

Commodore Business Machines had begun to lose its edge after the heady success of the Commodore 64. After several bad decisions, the company collapsed and filed for bankruptcy in 1994.

–   An OS dependent on the hardware

When GEOS was first created it was meant to be an embedded system (the Sky Tray). It was hand coded to utilise the processor to its maximum. You could not just write it in a high level language and compile for the hardware, it would take up too much RAM and would be slow.

The 6502 processor was simple enough that a programmer could hand type the assembly code far better than any machine could. whilst this made the Commodore 64, and the 6502 in it, sing - it also meant that moving to a new processor architecture basically meant a total rewrite. This

ruled out the Commodore 64 / 128's successor - the Amiga, which used a different processor architecture.

GEOS was not entirely out of the game though; the 6502 processor was being used in several other products at the time, and additional ports of GEOS were made. Most notably, on Apple's popular home computer the Apple II in 1988.

7.1 Geoworks

At the start of the 90s, Berkeley Softworks became Geoworks, and with the new name - a whole new strategy and a new OS.

Geoworks moved into Microsoft territory by creating a PC based OS to compete with Windows. However, in GEOS fashion, 'Geoworks Ensemble' (known internally as PC/GEOS) was leaner, meaner and faster than Windows 3.0 on the same hardware. Geoworks Ensemble would run nicely on a 386 or 486 PC that would not normally be powerful enough to run Windows 95.

Bill Gates called Brian Dougherty to discuss buying Geoworks and moving the developers to Seattle to incorporate some of the innovations in PC/GEOS into Windows. PC/GEOS had the Start Menu concept a full 2 years before Microsoft. The developers were not interested in moving, and the lead VC advised against it.

"He [Bill Gates] was actually very charming. Ballmer was the hammer. I met with Bill and several of the engineers on the Windows development team first, it turns out that several of those engineers were in another small Berkeley company with Nathan Myhrvold that Microsoft had acquired earlier. They were complimentary of what we had done and talked about joining forces to work on the next version of Windows. I should have listened to them, especially considering how MS stock appreciated from 1989 on.

Ballmer was the bad cop, he came in and said, "Look if you don't sell or license to us, we really have to crush you, we can't afford to have a competing PC operating system". I don't think he was trying to be mean or intimidating; it was just matter of fact.

As I look back on it, if I were in his or Gates shoes I would have had the same attitude. The PC OS standard was a winner-take-all sweepstakes with billions of dollars hanging in the balance, the world doesn't really want to have to write software for multiple OSes.

A lot of people vanquished by Microsoft cry about their unfair business practices, I look at it differently; they were there first and fought tooth and nail to defend their business. I'd have done the same in their place."

PC/GEOS was a full pre-emptive multi-tasking, multi-threaded OS (yes, in 1990!). It had a postscript-like imaging model, complete with outline font technology and separate rotation, translation & scaling matrices for both the application and the UI. (a leaf from Mac OS X's book; 10 years before)

Brian Dougherty describes PC/GEOS's UI:

"The object oriented flexible user interface technology in [PC] GEOS is to this day the most sophisticated UI technology ever built into an OS. The team at Sun that developed Java studied it and stole some of the concepts but in my opinion did not achieve the same level of sophistication. Applications in PC GEOS contained a generic tree of objects describing the user interface features the app required with the ability to provide hints for how to realize those elements. The operating system then had a specific user interface library that would map those generic UI objects to specific UI elements like menus or dialog boxes.

The same binary of an application could be made to run under an entirely different look and feel. For example, at one point we wrote a Mac UI that turned a PC running GEOS into a machine that was almost indistinguishable from a Mac. You could go to preferences and select either the Mac UI or the Motif UI (Windows-like) and the system would restart and all of the applications would come up under the look and feel you selected. You almost have to see this live to believe how cool it was.

We actually got into extensive discussions with Apple about developing a low cost notebook that would run GEOS with the Mac UI. It got killed by the hardware group doing Mac notebooks, but it went all the way to a board meeting we attended with Scully et al before it died."

The original GEOS still continued its life through licensing the OS to mobile phone and PDA manufacturers, appearing on early PDA devices like the Nokia Communicator 9000 & 9110. This provided users with the power of the GEOS user interface (and geoCalc) on the emerging hardware.

Whilst Geoworks Ensemble is a newer OS than GEOS, I am reviewing the original Commodore 64 version because I have much more experience with it, and I feel that the first version is an important factor in explaining where GEOS went later on in life. For this reason, I won't be going into any detail about how Geoworks Ensemble functions in this article. I leave below a couple of links where you can find some more information about this system:

This company took over development of PC/GEOS, naming it 'NewDeal Office' in 1996 to compete in the education space with Microsoft. NewDeal Office required far less hardware resources than Windows 95, suiting older equipment perfectly. The last version was NewDeal Office 2000 before New

Deal Inc. went under and PC/GEOS passed hands once more.

7.3 Breadbox Ensemble

PC/GEOS returned again in 2002, after Breadbox Computer Company LLC took up the OS, finally licensing all the rights to GEOS in 2003.

Geoworks were eventually beaten out of the market, disappearing from the map around 2004.

7.4 Airset

Geoworks was not the end of the line; in 2003 Airena was formed to produce products for managing information with mobile phones. With some of the GEOS programmers onboard their first product 'Airset' is a web/java application that lets you manage bookmarks, to do lists, calendars & contacts between a PC and Mobile phone.

8. The OS that could have been

Anybody can wax lyrical about 'what could have been', at the end of the day GEOS, both Commodore and PC versions, were genuine technical masterpieces in their own right - involving great skill. They stood true to being an affordable OS, that got the most power out of the least hardware. GEOS might not be an Open Source system but just because it's commercial, that does not negate the clear love for engineering that went into it.

Sure GEOS is all but forgotten now, but that doesn't mean it didn't contribute to what helped shape computer usage in the 80s and 90s. Considering that even an OS as popular as GEOS was can fade away, then there is no accuracy or inaccuracy in waxing lyrical that even Microsoft could be entirely forgotten one day in the far future. These things happen.

I love Commodore/GEOS because it represents something that no longer exists in the computer industry anymore. The Commodore 64's hardware is (programatically) beautifully designed. It is possible for one person to know the entirety of the machine, every function, every chip, every quirk. This gave the individual the power to create almost without limits, as shown by the continual modern day upgrades of the C64 and the popular demo and music scene. Today's hardware is just too complex to fully understand the whole system. Only a small percentage of the PC's actual power is ever used
because of a rapidly moving platform that solves problems by throwing more hardware in.

Now it's your choice

Alternative operating systems exist because people continue to see value in their choice of what makes a better interface. Because Windows is so prevalent, and frankly 'good enough' but not great as a whole, this only livens the world of alternative operating systems. Pretty much all alternative OSes do something different or better than Windows, something that gives them value and worth to their users.

Be it the Amiga workbench, BeOS tracker, SkyOS's viewer or GEOS's low requirements and killer apps of the day; this review has been written to only provide insight into one more 'alternative' system and not proclaim any religious software / UI / Kernal beliefs. I hope that this article has been interesting, insightful and entertaining and I thank you for reading it. I only hope that you've been able to enjoy it from the comfort of your own chosen operating system ;)

Special Thanks

I would like to thank the following individuals and groups for their input on this article:

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ii.About The Author

Kroc Camen started programming at the age of 7 on a Commodore 64 home computer. The first thing he typed into a computer was "Hello". It responded cheerfully with "Syntax Error". Ever since then he has been searching for emotion in computers in a variety of operating systems spanning a brief 15 years. From the OS you are about to see today, to all the versions of Windows, RISC OS, Amiga OS and recently Mac OS X. Yet one thing hasn't changed despite the difference in computing power over these years.

Computers still have "Syntax Error"s. Is human emotion garbage – if garbage in, equals garbage

out? The quality of an OS is down to the love and emotion put into it by the designers & programmers.

Club Officers

>>--> Officers and Keypersons <--<<

-The Small Print-

The Fresno Commodore User Group is a club whose members share an interest in Commodore 8-bit and Amiga computers. Our mailing address is 185 W. Pilgrim Lane, Clovis, CA 93612. We meet monthly in the meeting room of Bobby Salazar's Restaurant, 2839 North Blackstone Ave., Fresno, CA. The meetings generally include demonstrations, discussion, and individual help.

Dues are $12 for 12 months. New members receive a "New Member Disk" containing a number of useful Commodore 8-bit utilities. Members receive a subscription to The Interface newsletter, access to the public domain disk library, technical assistance, and reduced prices on selected software/hardware.

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