



THE EDITOR'S GOZILLA

-by Lenard Roach

It's been an incredible two months here at the Roach Hotel. In the month of July my web designer and I banged our heads on the wall to come up with an advertisement to put into "Commodore Free" magazine and I think we did a pretty good job. I did the writing and Tim did the graphics. I misunderstood Mr. Parker's message thinking it was £12 a month when in truth it was £12 for the year, so now I have to come up with more ads to complete the contract. The ad is starting to pay off as I got my first royalty check for 2013 in the mail in September. Please check my ad out in any recent issue of "Commodore Free."

Speaking of Mr. Parker, he was groovy enough to interview me not once, but twice, for issues 71 and 72, which gave me a chance to talk about the somewhat confusing Commodore book, "Run/Stop-Restore: 10th Anniversary Edition" and straighten out any questions about it. The second interview dealt with me as a Commodore BASIC programmer and gave me a chance to brag on my work. Hopefully (as is the wish of all writers), this will generate even more sales and I can get out of working both day and night.

In August, everything seemed to have exploded like a mortar shell and shrapnel hit everyone including FCUG. First of all, at the beginning of the month, for reasons unknown to me, I fell into a harsh, heart-ripping depression that for three weeks kept me in bed for 16 to 18 hours a day, and it made it difficult to go to work. My day job was groovy and didn't dismiss me from work, but I held on until I hopefully felt better. By being down, my finances, which was hit the worst, fell into shambles, and I ended up in debt to three accounts in two banks to the sum of \$500. Because of this, the banks are reporting my information to some federal agency wherein I will never have another bank account again. This is nothing upsetting; it's just business and I can understand that. Besides, there are alternative forms to banks in my area that serve in a banking form.

This is not the sad part. What really hurts is the banks are sending back to people and institutions some checks I wrote as old as May as uncashable. This is a low blow done by the banks, so I contacted the bank and told them that I hope to have these accounts straightened out by the end of the month of September.

Now how does this affect FCUG? I bought a printer from the club and wrote a check for the purchase. Robert informed me just recently that the check was sent back as uncashable and even charged Robert a fee for my misdemeanor. This sucks. I have such a financial mess to clean up that my phone is constantly abuzz with people wanting money. Thank God that this depression only lasted 3 weeks, which is a new

record for recovery for me. Back in 1996, I had a similar depression that lasted for one year. Only medicine and therapy and prayer helped me that time.

Upon investigation, it was discovered that I was prescribed the wrong medication to combat the symptoms of my Haldol, so when this medicine was ceased, my God pulled me out of my depression.

There is a little phrase found in Joel 2:25 which says, "The LORD will restore what the locust have eaten." Now, with the depression behind me, I have been worked by both jobs next to death to cover missing and sick employees at more than one location, and I am happy with this. With checks pushing at \$700 a week (and lacking sleep, I might add), the bills will soon be caught up, the banks will be paid, and FCUG and Robert will be reimbursed.

I know I'm getting a little religious here, and I do apologize for any offense, but only a higher power could be opening doors of opportunity like this and at an exact point of need. Somebody has to be thinking of me that can manipulate such events.

With that said, I want to inform Interface readers that I'm going to be cracking open some long-dormant software and take a work at these construction sets made for Commodore. I hope to have something ready by the 2014 CommVEx.

Yes, I'm going to attempt, yet again, to try my hand at driving the 1,024 miles in the Neon to go to the next CommVEx. This will be an extra special trip because my youngest son will be 21 and able to play at the slot

machines and poker tables. More than likely he will try his hand first at the casinos here in Kansas City before heading out, but Las Vegas is the toddling town where all the action is.

That should catch all you Commodore gossip hounds up on the latest. Please enjoy the rest of the newsletter.



MONTHLY MEETING NOTES -by Dick Estel & Robert Bernardo

JULY 2013

It was a hot, Hot, HOT day in Fresno, with a low of 80 the night before and a high of 105 expected. But after the initial work of carrying stuff in and setting up, it was nice and cool inside Bobby Salazar's Cantina, where Robert, Roger, Louis, Vincent and Dick gathered for the July meeting of the Fresno Commodore Users Group.

Recalling an earlier meeting when he had brought in some heat sinks he had bought on-line, Louis demonstrated how a chip easily slides into the device, a feature we had not noticed previously. He opened up Vincent's VIC-20 to show how he had installed several heat sinks in it.

Next we discussed final plans for CommVEx. The location has changed once again; the event will be back in Jockey Room 1 (which became Jockey Room 2 the day before the show) of the Plaza Hotel, the same room we had for several years. Although somewhat smaller, this room is more convenient for moving equipment in and out.

Shane Monroe of RetroGaming Radio will be present, interviewing attendees and broadcasting via the Internet. It will be the first time there has been a media presence at the event.

Robert will be heading to Las Vegas on Tuesday. One of his pre-show duties there is to get the monitors, computers and other equipment that are provided by Al Jackson of the local club. Louis and Vincent will arrive Friday afternoon, in time to help with room setup starting around 4 p.m.

Robert talked about the recent William Shatner Weekend and showed video that included the actor signing a 1541 disk drive for Robert, as well as his performance in a horse show. Shatner is well known as a horseman and does many equine-related charity appearances.

Robert reported on his attendance at Atari Party 2013, held July 6 at the Yolo County Public Library in Davis, California. A total of 140 people came through the doors, many of them parents and kids who were visiting the library, and of course, the kids immediately began trying out various video games. A number of visitors were interested in the Multiple-Classic Computer device (MMC -216), which has Commodore, Amiga, and Atari games. Also shown was the Multicart 64. Robert referred

them to our member in Fontana, Charles Gutman, if they were interested in making a purchase.

Robert brought in a VIC-VODER, a new speech synthesis product that provides a more natural voice for games that have speech features, such some of the Scott Adams adventure games. A simple program can also be written with PRINT statements, and members had a good time putting it through his paces, especially Vincent, who got it to talk about his dog and cat. Roger went home and brought back two Scott Adams games which we tested to good effect.

The next demonstration was of two VIC-20 cassette games that Robert purchased from a programmer in Canada. One would not load, but the other, somewhat of a PacMan clone, worked well with simple graphics and solid sound.

Finally, Robert loaded up the Vorpal Utility Disk, a product that dates back to the 1980s. It has programs to test drive speed and alignment, and purports to realign the drive (technicians have always been skeptical about this claim). It also has other utilities, such as disk copying and formatting.

After the meeting, in the hot shade at the Bobby Salazar's, we transferred the many Commodore and Amiga goods headed for CommVEx out of Robert's car and into Dick's truck. Dick had kindly lent the truck for Robert's trip to Las Vegas for CommVEx. After the show, when Robert was to return to Fresno, they would trade vehicles and goods again.

For more information about products and services mentioned above, visit the following websites:

William

Shatner: [http://williamshatner.com/ws/Vorpal Utility](http://williamshatner.com/ws/VorpalUtility)

Disk: <http://csdb.dk/release/?id=100535>
Vic-

Voder: <http://www.geocities.ws/cbm/vic-voder/vic-voder.html>

Multiple Classic Computer

216: <http://www.mcc-home.com/>

CommVex: <http://www.portcommodore.com/dokuwiki/doku.php?id=commvex:news>

RetroGaming

Radio: <http://www.retrogamingradio.com/>

Atari Party

Photos: <http://www.dickestel.com/atari13.htm>

AUGUST 2013

-by Dick Estel & Robert Bernardo

It was predicted to be ANOTHER hot, Hot day in Fresno, around 105, but some cloud cover came in, keeping it fairly nice in the morning when we carried stuff into Bobby Salazar's but clearing off and allowing it to rise to 100 by the time we were done. In attendance were Robert, Roger, Louis, Vincent, and Dick, and we had a guest who came for part of the meeting.

We briefly discussed the need at some future point for someone else to take over the equipment manager job, since Dick was experiencing some pain in his hand, making it difficult to lift the monitor. Roger volunteered for this job; Dick will continue for the time being.

Robert reported that CommVEx was very successful, with sufficient funds received to fully pay for the room next year. Robert investigated the possibility of getting a larger room. We all agreed that such a financial commitment, while possible for 2014, might not be sustainable beyond that.

As we finished up our lunch, a visitor arrived, Raymond Ciula, who had been in touch with Robert and was donating some Amiga equipment. He brought in an A500, an A1010 disk drive, a Commodore 1084-S stereo monitor, some software (DeluxePaint), and several joysticks, including a Winner 770 analog-to-digital one that worked with Commodore or Atari. Raymond had worked for Software Etc. for about five years in the 1990s, and his background led to an extensive discussion of various Amiga and other games that were popular in those years.

Next we viewed a sample of a video Robert made at CommVEx, which showed Louis demonstrating how to repair a bad Atari joystick by using currently available new parts. Eventually, this presentation will be on-line.

We also looked at the Google Plus site where people attending CommVEx had posted many still photos and videos. These can be seen at <https://plus.google.com/events/cvg9tgfpkfbhr8e1mgsatthf4ao>

Dick was a bit appalled at seeing a photo of what Robert had done to his Ford F150, jamming it full of equipment. While in Fresno, the truck had been fairly filled with equipment destined for CommVEx. Robert brought the vehicle to Visalia and put even more equipment

into it. When Robert brought the vehicle to Las Vegas, he got even more hardware from Al Jackson, president of the Clark County Commodore Computer Club. Al remarked that it was the “Law of Commodore Conservation” – whatever free space is available, Commodore will fill it! The link for the photo is too long for sensible people to type, but will be found in the on-line version of this report and can be found on the photo site mentioned above.

Robert reported that two long-time sellers of Commodore equipment were going out of business. Jim Scabury, who gave Robert some hardware and software to sell at CommVEx for him, was in very poor health and had been hospitalized for several weeks.

One of the rare storefronts still operating, Computer Station in Long Beach, California announced the close-out of all stock and will be ending eBay sales as well. The Station had been in operation for 30 years, featuring Commodore, Amiga, Apple II, and PC-DOS items. We looked at their current eBay prices and were amazed that their items still had high 1980’s prices or higher.

The balance of the meeting was spent discussing everything Commodore, and checking out various computer programs. Robert showed off the refurbished VIC-20 he picked up when he visited Commodore technician Ray Carlsen on August 1; the VIC was all cleaned up and had JiffyDOS and reset switches installed. Louis plugged in his flat C128 and ran a test provided by Ray Carlsen to determine whether his computer had been installed with 64K video RAM. Robert had brought a complete Koalapid package for member Brad Strait and also

a complete SuperSketch tablet package; he demonstrated the SuperSketch and its “Etch-a-Sketch” abilities for the C64.

At the end of the meeting, Louis took the A500, external disk drive, and some joysticks; Roger grabbed the 1084-S monitor, and Robert the Winner joystick.

For more information about products and services mentioned above, visit the following websites:

Computer Station: <http://www.city-data.com/businesses/503372799-computer-station-inc-long-beach-ca.html>

CommVEx
photos: <https://plus.google.com/events/cvg9tgfpkfbhr8e1mgsatthf4ao>



A History of the Amiga, part 3:
The First Prototype

The third installment of the series on the history of the Amiga

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-by Jeremy Reimer

Prototyping the hardware

Modern chips are designed using high-powered workstations that run very

expensive chip simulation software. However, the fledgling Amiga company could not afford such luxuries. It would instead build, by hand, giant replicas of the silicon circuitry on honeycomb-like plastic sheets known as breadboards.

Breadboards are still used by hobbyists today to rapidly build and test simple circuits. The way they work is fairly simple. The breadboard consists of a grid of tiny metal sockets arranged in a large plastic mesh. Short vertical strips of these sockets are connected together on the underside of the board so that they can serve as junctions for multiple connectors. Small lengths of wire are cut precisely to length and bent into a staple-like shape, with the exposed wire ends just long enough to drop neatly into the socket. Small chips that perform simple logic functions (such as adding or comparing two small numbers in binary code) straddle the junctions, their centipede-like rows of metal pins precisely matching the spacing of the grid. At the time, nobody had ever designed a personal computer this way. Most personal computers, such as the IBM PC and the Apple II, had no custom chips inside them. All they consisted of was a simple motherboard that defined the connections between the CPU, the memory chips, the input/output bus, and the display. Such motherboards could be designed on paper and printed directly to a circuit board, ready to be filled with off-the-shelf chips. Some, like the prototypes for the Apple II, were designed by a single person (in this case, Steve Wozniak) and manufactured by hand.

The Amiga was nothing like this. Its closest comparison would be to the minicomputers of the day — giant,

refrigerator-sized machines like the DEC PDP-11 and VAX or the Data General Eagle. These machines were designed and prototyped on giant breadboards by a team of skilled engineers. Each one was different and had to be designed from scratch — although to be fair, the minicomputer engineers had to design the CPU as well, a considerable effort all by itself! These minicomputers sold for hundreds of thousands of dollars each, which paid for the salaries of all the engineers required to construct them. The Amiga team had to do the same thing, but for a computer that would ultimately be sold for under \$2,000.

So there were three chips, and each chip took eight breadboards to simulate, about three feet by one and a half feet in size, arranged in a circular, spindle-like fashion so that all the ground wires could run down the center. Each board was populated with about 300 MSI logic chips, giving the entire unit about 7200 chips and an ungodly number of wires connecting them all. Constructing and debugging this maze of wires and chips was a painstaking and often stressful task. Wires could wiggle and lose their connections. A slip of a screwdriver could pull out dozens of wires, losing days of work. Or worse, a snippet of cut wire could fall inside the maze, causing random and inexplicable errors.

However, Jay never let the mounting stress get to him or to his coworkers. The Amiga offices were a relaxed and casual place to work. As long as the work got done, Jay and Dave Morse didn't care how people dressed or how they behaved on the job. Jay was allowed to bring his beloved dog, Mitchy, into work. He let him sit by his desk and had a separate nameplate

manufactured for him.

Jay even let Mitchy help in the design process. Sometimes, when designing a complex logic circuit, one comes to a choice of layout that could go either way. The choice may be an aesthetic one, or merely an intuitive guess, but one can't help but feel that it should not be left merely to random chance. On these occasions Jay would look at Mitchy, and his reaction would determine the choice Jay would make.

Slowly, the Amiga's custom chips began to take shape. Connected to a Motorola 68000 CPU, they could accurately simulate the workings of the final Amiga, albeit more slowly than the final product would run. But a computer, no matter how advanced, is nothing more than a big, dumb pile of chips without software to run on it.

Raising the bar for operating systems

All computers since the very first electronic calculators required some kind of "master control program" to handle basic housekeeping tasks such as running application programs, managing the user environment, talking to peripherals such as floppy and hard disks, and controlling the display. This master program is called the operating system, and for most personal computers of the day, it was a very simple program that was only capable of doing one thing at a time.

Jay's specialty was designing hardware, not software, so he had little input on the design of the Amiga's operating system. But he did know that he wanted his computer to be more advanced than the typical personal computers of the time

running such primitive operating systems as AppleDOS and MS-DOS. His hire for chief of software engineering, Bob Pariseau, did not come from a background in microcomputers. He worked for the mainframe computer company Tandem, which made massive computers that were (and are still today) used by the banking industry.

Bob was used to his powerful computers that could handle many tasks and transactions at one time. He saw no reason why microcomputers should not be capable of the same thing. At the time, there were no personal computers that could multitask, and it was generally felt that the small memory capacities and slow CPU speeds of these machines made multitasking impossible. But Bob went ahead and hired people who shared his vision.

The four people he hired initially would later become legends of software development in their own right. They were RJ Mical, Carl Sassenrath, Dale Luck, and Dave Needle. Carl's interview was the simplest of all: Bob asked him what his ultimate dream job would be, and he replied, "To design a multitasking operating system." Bob hired him on the spot.

Carl Sassenrath had been hired from Hewlett-Packard where he had been working on the next big release of a multitasking operating system for HP's high-end server division. According to Carl,

"What I liked about HP was that they really believed in innovation. They would let me buy any books or publications I wanted... so I basically studied everything ever published about

operating systems. I also communicated with folks at Xerox PARC, UC Berkeley, MIT, and Stanford to find out what they were doing.

In 1981-82 I got to know CPM and MSDOS, and I concluded that they were poor designs. So, I started creating my own OS design, even before the Amiga came along."

So the Amiga operating system would be a multitasking design, based on some of Carl's ideas that would later be called a "microkernel" by OS researchers in academia. Carl had invented the idea before it even had a name; the kernel, or core of the operating system, would be small, fast, and capable of doing many things at once, attributes that would then pervade the rest of the operating system.

The decision to make a multitasking kernel would have a huge impact on the way the Amiga computer would perform, and even today the effects can still be felt. Because the mainstream PC market did not gain true multitasking until 1995 (with Windows 95) and the Macintosh until 2001 (with OSX), an entire generation of software developers grew up on these platforms without knowing or understanding its effects, whereas the Amiga, which had this feature since its inception, immediately gave its developers and users a different mindset: the user should never have to wait for the computer. As a result, programs developed for the Amiga tend to have a different, more responsive feel than those developed for other platforms.

Adding a GUI

There was one more significant design decision that was made about the Amiga

at this time: to design it with a graphical user interface. Most personal computers at the time were controlled by a command line interface; the user had to type in the name of a program to run it and enter a long series of commands to move files or perform maintenance tasks on the computer.

The idea of a graphical user interface was not new. Douglas Engelbart had demonstrated most of its features along with the world's first computer mouse in 1968, and researchers at Xerox PARC had created working models in the mid-70's. At the beginning of the 1980's, it seemed everyone was trying to cash in on the graphical interface idea, although developing it on the primitive computers of the day was problematic. Xerox itself released the Star computer in 1981, but it cost \$17,000 and sold poorly, serving mostly as an inspiration for other companies. Apple's version, the Lisa, came out in 1983. It cost \$10,000 and also sold poorly. Clearly, personal computers were price-sensitive, even if they had advanced new features.

Apple solved the price issue by creating a stripped-down version of the Lisa. It took away the large screen, replacing it with a tiny 9 inch monochrome monitor. Instead of two floppy drives, the new machine would come with only one. There were no custom chips to accelerate sound or graphics. And as much hardware as possible was removed from the base model, including the memory — the operating system was completely rewritten to squeeze into 128 kilobytes of RAM. The stripped-down operating system was only capable of running one application at a time — it couldn't even switch between paused tasks.

This was the Macintosh, which was introduced to the world in dramatic fashion by Steve Jobs in January of 1984. What most people don't remember about the Macintosh was that initially it was not a success—it sold reasonably well in 1984, but the following year sales actually went down. The Mac in its original incarnation was actually not very useful. The built-in word processor that came with the machine was limited to only eight pages, and because of the low memory and single floppy drive, making a backup copy of a disk took dozens of painful, manual swaps.

The Amiga operating system team wasn't thinking like this. The hardware design group wasn't compromising and stripping things down to the bare minimum to save money, so why should they?

One of the more difficult parts of writing a graphical user interface is doing the low-level plumbing, called an API, or Application Programming Interface, that other programmers will use to create new windows, menus, and other objects on the system. An API needs to be done right the first time, because once it is released to the world and becomes popular, it can't easily be changed without breaking everyone's programs. Mistakes and bad design choices in the original API will haunt programmers for years to come.

RJ Mical, the programmer who had come up with the "Zen Meditation" game, took this task upon himself. According to Jay Miner, he sequestered himself in his office for three weeks, only coming out once to ask Carl Sassenrath a question about message ports. The resulting API was called

Intuition, an appropriate name given its development. It wound up being a very clean, easily-understandable API that programmers loved. In contrast, the API for Windows, called Win16 (later updated to Win32) was constructed by a whole team of people and ended up as a mishmash that programmers hated.

Working 90-hour weeks

RJ Mical recalled what life was like back in those busy early days,

"We worked with a great passion... my most cherished memory is how much we cared about what we were doing. We had something to prove... a real love for it. We created our own sense of family out there."

Like the early days at Atari, people were judged not on their appearance or their unusual behavior but merely on how well they did their jobs. Dale Luck, one of the core OS engineers, looked a bit like a stereotypical hippie, and there were even male employees who would come to work in purple tights and pink fuzzy slippers. "As long as the work got done, I didn't mind what people looked like," was Jay Miner's philosophy. Not only was it a family, but it was a happy one: everyone was united by their desire to build the best machine possible.

Why was everybody willing to work so hard, to put in tons of late (and sometimes sleepless) nights just to build a new computer? The above and beyond dedication of high-tech workers has been a constant ever since Silicon Valley became Silicon Valley. Companies have often reaped the rewards from workers who were willing to put in hundreds of hours of unpaid overtime each month.

Managers in other industries must look at these computer companies and wonder why they can't get their workers to put in that kind of effort.

Part of the answer lies with the extreme, nearly autistic levels of concentration that are achieved by hardware and software engineers when they are working at peak efficiency. Everyday concerns like eating, sleeping, and personal hygiene often fade into the background when an engineer is in "the zone." However, I think it goes beyond that simple explanation. Employees at small computer companies have a special position that even other engineers can't hope to achieve. They get to make important technical decisions that have far-reaching effects on the entire industry. Often, they invent new techniques or ideas that significantly change the way people interact with their computers. Giving this kind of power and authority to ordinary employees is intoxicating; it makes people excited about the work that they do, and this excitement then propels them to achieve more and work faster than they ever thought they could. RJ Mical's three-week marathon to invent Intuition was one such example, but in the story of the Amiga there were many others.

The employees of Amiga, Inc. needed this energy and passion, because there was a hard deadline coming up fast. The Consumer Electronics Show, or CES, was scheduled for January 1984.

The January CES and the buyout of Amiga

CES had expanded significantly since its inception in 1967. The first CES was held in New York City, drawing 200

exhibitors and 17,500 attendees. Among the products that had already debuted at CES were the VCR (1970), the camcorder (1981), and the compact disc player (also 1981). CES was also home to the entire nascent video game industry, which would not get its own expo (E3) until 1995.

Amiga, Inc. didn't have a lot of money left over for shipping its prototype to the show, and the engineers were understandably nervous about putting such a delicate device through the rigors of commercial package transport. Instead, RJ Mical and Dale Luck purchased an extra airline seat between the two of them and wrapped the fledgling Amiga in pillows for extra security. According to airline regulations, the extra "passenger" required a name on the ticket, so the Lorraine became "Joe Pillow," and the engineers drew a happy face on the front pillowcase and added a tie! They even tried to get an extra meal for Joe, but the flight attendants refused to feed the already-stuffed passenger.

The January 1984 CES show was an exciting and exhausting time for the Amiga engineers. Amiga rented a small booth in the West Hall at CES, with an enclosed space behind the public display to showcase their "secret weapon," the Lorraine computer. A guarded door led into the inner sanctum, and once inside people could finally see the massive breadboarded chips, sitting on a small table with a skirt around the edges. Skeptical customers would often lift the skirt after seeing a demonstration, looking for the "real" computer underneath.

The operating system and other software were nowhere near ready, so RJ Mical

and Dale Luck worked all night to create software that would demonstrate the incredible power of the chips. The first demo they created was called Boing and featured a large, rotating checkered ball bouncing up and down, casting a shadow on a grid in the background, and creating a booming noise in stereo every time it hit the edge of the screen. The noise was sampled from Bob Pariseau hitting the garage door with one of the team's celebrated foam baseball bats. The Boing Ball would wind up becoming an iconic image and became a symbol for the Amiga itself.

The January CES was a big success for the Amiga team, and the company followed it up by demonstrating actual prototype silicon chips at the June CES in Chicago, but the fledgling company was rapidly running out of money. CEO Dave Morse gave presentations to a number of companies, including Sony, Hewlett-Packard, Philips, Apple, and Silicon Graphics, but the only interested suitor was Atari, who lent the struggling company \$500,000 as part of a set of painful buyout negotiations. According to the contract, Amiga had to pay back the \$500,000 by the end of June or Atari would own all of their technology. "This was a dumb thing to agree to but there was no choice," said Jay Miner, who had already taken a second mortgage out on his house to keep the company going.

Fortunately for Amiga (or unfortunately, depending on how you imagine your alternate histories) Commodore came calling at the last minute with a buyout plan of its own. It gave Amiga the \$500,000 to pay back Atari, briefly thought about paying \$4 million for the rights to use the custom chips, and then finally went all in and paid \$24 million

to purchase the entire company. The Amiga had been saved, but it now belonged to Commodore.

This concludes the first three-part installment of the history of the Amiga platform. Watch for the next installment, which will cover the Amiga's official launch and its early years



-by Dick Estel

INTRODUCTION

This is number four of a limited series of articles saluting some of our past members, people who have made a significant contribution to the club. Our more recent members did not have the pleasure of knowing these men and women, many of whom have passed on. However, they made a lasting impression on the club and the author.

Questions and comments to our web address, info@dickestel.com, are welcome.

LLOYD WARREN

Perhaps no member worked harder to support and advance the club than Lloyd Warren. Unfortunately I never talked to Lloyd about how he got his start with Commodore, but he was a member of

clubs in Ventura and Oxnard before moving to Fresno. He worked for Proctor and Gamble in that area, and I believe he moved to Fresno County to be closer to relatives when he retired.

He initially lived in the Meadow Lakes area near Auberry in the Sierra foothills, but lived out his final 20 years at the Senior Citizens Village in Fresno. Around 1989 he reluctantly allowed himself to be drafted to run for president (without opposition of course), but before he could assume office, he suffered a serious stroke while visiting family in Alaska. Since I was vice president and had to take over, I later kidded him about doing anything to get out of being president.

Lloyd made a good recovery, but could no longer drive, so he gave up his mountain hideaway and embraced the support provided at the village. He often claimed that there were a number of widows there competing for his affections.

Lloyd's best-known and longest-lasting contribution to the club was to initiate a "Disk of the Month." Lloyd spent who knows how many hours collecting and compiling a disk of programs every month, and these were sold to members for \$3, an important source of income for the club for a number of years.

Beyond this, he was always ready to help others get the most out of their Commodores. He was an early and enthusiastic user and promoter of The Write Stuff word processor, which was sold as "user ware," a plan under which the club purchased the right to copy and sell the program. This proved to be

another great economic benefit to the club.

He was born on May 27, 1924, in Lynn, Massachusetts. In 1947 he was married to Gwen Goodwin, who passed away in 1980. They had two sons and a daughter.

As age took its inevitable toll, Lloyd stopped coming to meetings, and ultimately donated his equipment to the club. He died on August 18, 2009, at the age of 85. Like the other members honored here, he touched many lives for the better, and lives on in our memories.

– Dick Estel

Douglas C. Engelbart

The name of Douglas C. Engelbart is hardly a household word but his contributions to the world of computers surpass those of many better known names.

Born in 1925, he passed away July 2, 2013 in Atherton, CA. The following is summarized from his obituary in the New York Times.

Dr. Engelbart entered the field when computers were room-size beasts, but early on he had a vision of what could be. In 1950 "he saw himself sitting in front of a large computer screen full of different symbols — an image most likely derived from his work on radar consoles while in the Navy after World War II. The screen, he thought, would serve as a display for a workstation that would organize all the information and communications for a given project."

In December 1968 he gave a remarkable demonstration before more than a thousand of the world's leading computer scientists at the Fall Joint Computer Conference in San Francisco, one of a series of such conferences that had been held since the early 1950s. Dr. Engelbart was developing a raft of revolutionary interactive computer technologies and chose the conference as the proper moment to unveil them.

For the event, he sat on stage in front of a mouse, a keyboard and other controls and projected the computer display onto a 22-foot-high video screen behind him. In little more than an hour, he showed how a networked, interactive computing system would allow information to be shared rapidly among collaborating scientists. He demonstrated how a mouse, which he had invented just four years earlier, could be used to control a computer. He demonstrated text editing, video conferencing, hypertext and windowing.

The technology would eventually be refined at Xerox's Palo Alto Research Center and at the Stanford Artificial Intelligence Laboratory. Apple and Microsoft would transform it for commercial use in the 1980s and change the course of modern life.

In 1969 he helped create a system called the ARPAnet computer network, which developed into what is today the Internet.

Dr. Engelbart was one of the first to realize the accelerating power of computers and the impact they would have on society. In a presentation at a conference in Philadelphia in February 1960, he described the industrial process of continually shrinking the size of

computer circuits that would later be referred to as "Moore's Law," after Intel co-founder Gordon Moore.

Speaking of the future, he said, "Boy, are there going to be some surprises over there."