C. C. O. G.
COLOR COMPUTER OWNERS GROUP
NEWSLETTER   APRIL 1991

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LIBRARIAN	BOB HUMPHREY		
BULLETIN BOARD	(313) 292-4713		

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PRESIDENTS COMMENTS:

THIS MONTH WE WILL HAVE TO MAKE A DECISION ON A NEW MEETING DAY. THE VFW HAS INFORMED US THRU GUS KORTE THAT WE CAN NO LONGER USE THE HALL ON THE THIRD TUESDAY OF THE MONTH. THEY HAVE ACQUIRED ANOTHER COMMITMENT FOR THIS PARTICULAR DAY.   BERNIE

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C.C.O.G MINUTES   MARCH 19, 1991 BY MARCINE GLOWICKI

THE MEETING WAS CALLED TO ORDER AT 7:20 PM. THERE WERE 19 PEOPLE IN ATTENDANCE. LARRY SNIDER WAS BACK FOR THE EVENING AS WELL AS SEVERAL OTHER PEOPLE WHO HAVE NOT BEEN AT RECENT MEETING.

BOB HUMPHREY WAS INTRODUCED AS THE NEW LIBRARIAN. HE HAS TAKEN OVER THE JOB VACATED BY GERRY GERSKY.

THE TREASURER WAS NOT IN ATTENDANCE SO AN UPDATE WAS NOT GIVEN FOR THE MONTH. THERE ARE SEVERAL BILLS OUTSTANDING WHICH WILL NEED TO BE TAKEN CARE OF. MOST OF THESE BILLS WERE FOR MAILINGS. THIS WILL PROBABLY DEPLETE OUR FUNDS.

ROBERT GAULT GAVE THE INFORMATION HE RECEIVED FROM RAINBOW REGARDING TICKETS, MAGAZINE SUBSCRIPTIONS AND DISK SUBSCRIPTIONS. TICKETS--YOU ARE BETTER OFF JUST GETTING THEM ON YOUR OWN. CLUBS MUST HAVE A MINIMUM OF 15 TICKETS BEFORE YOU CAN GET A DISCOUNT. THE DISCOUNT BEING A WHOPPING 10%. AS FAR AS SUBSCRIPTIONS $29 FOR THE MAGAZINE AND $2 OFF ON THE DISK PRICE. SEE ROBERT GAULT AT THE NEXT MEETING IF INTERESTED.

BERNIE PUT NOTICES IN NEWSLETTERS MAILED TO OTHER COCO CLUBS THAT THIS WOULD BE THEIR LAST MAILING IF OUR CLUB DID NOT RECEIVE ANY COMMUNICATIONS FROM THEIR CLUB. ROUGH FROM MILTON, ONTARIO CANADA SENT 5 DOUBLE SIDED DISKS. THESE DISKS CONTAINED THEIR NEWSLETTER, DISCUSSIONS, AND VARIOUS OTHER ITEMS. THEY WILL BE AVAILABLE IN OUR CLUB LIBRARY. CHECK WITH BOB HUMPHREY. (ONE SIDE OF THE DISK IS RS DOS AND THE OTHER IS OS9 MATERIAL.)

NEW BUSINESS--JIM SCANLON HAD INFORMATION SENT TO HIM FROM THE COMPANIES SELLING OR PRODUCING NEW MACHINES. IT WAS MENTIONED THAT FRANK HOGG IS SELLING AND INTERACTIVE MEDIA IS SHIPPING KITS, (NO FCC APPROVAL YET). BERNIE MENTIONED THAT IF THE MACHINE DOES NOT PASS FCC REGULATIONS IT COULD BE CONFISCATED WITH NO COMPENSATION TO YOU AND THE COMPANY CAN BE VERY HEAVILY FINED.

NEW FACES IN THE CROWD HELPED DEMONSTRATE PROGRAMS THIS MONTH. BOB HUMPHREY DEMONSTRATED DYNA CALC WHICH IS AN ELECTRONIC SPREADSHEET. HE DID A THOROUGH JOB WITH THIS PROGRAM AND HAD MANY EXAMPLES TO SHOW. TOM NAPOLITANO DEMONSTRATED COLOR PROFILE OS9 VERSION. AGAIN THIS WAS A VERY INTERESTING AND COMPLETE JOB.

KARL SHOWED SOMETHING THAT HE HAD WORKED ON SEVERAL YEARS AGO. IT WAS A SET UP FOR LIGHTING WHICH WOULD HAVE BEEN USEFUL AT THE TV STATION HE WAS EMPLOYED AT.

MEETING MINUTES CONTINUED:

THANKS FOR THE PARTICIPATION FROM THE CROWD.

NEXT MONTH'S MEETING WILL FEATURE MUSIC AND COCO AROUND THE HOUSE.
HOW DO YOU USE YOUR COCO? BE CREATIVE AND BRING YOUR IDEAS TO THE CLUB
MEETING IN APRIL!

THE MAY MEETING WILL FEATURE RAINBOWFEST INFORMATION. IT SOUNDS AS IF
THIS WILL BE THE LAST RAINBOWFEST.

SEE YOU AT THE NEXT MEETING.

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"VIEWPOINTS" BY GUS KORTE

RECENTLY I BOUGHT THE OS-9 LEVEL II PROGRAM AND MANUAL ON SALE AT A LOCAL
RADIO SHACK STORE. IT IS OBVIOUS NOW THAT I NEED AN ADDITIONAL DISK DRIVE
AND 512K MEMORY UPGRADE. WITHOUT THAT AS OTHER CLUB MEMBERS HAVE INDICATED,
OS-9 DOESN'T WORK VERY WELL. I FOUND THIS OUT WHEN I TRIED TO CUSTOMIZE AN
OS-9 DISKETTE WHERE ONE HAS TO SWAP TWO DISKETTES SOMEWHAT LIKE WHEN YOU ARE
BACKING UP A DISKETTE ON ANOTHER ONE. THE SWAPPING SEEMED TO BE AN ENDLESS
LOOP. RATHER THAN CONTINUE WASTING TIME THIS WAY I DECIDED TO TRY TO GET
HELP FROM OTHERS ON THE BBS USED BY THE CCOG CLUB. I HAVEN'T AT THIS TIME
OBTAINED THE ANSWER; BUT I'M SURE I WILL HAVE AN ANSWER SOON TO THIS PROBLEM
FROM THE BBS. THAT IS ONE OF THE BIG BENEFITS OF CLUB MEMBERSHIP. SOMEONE
ON THE BBS USUALLY HAS THE ANSWER TO THE PROBLEM. SO IF YOU DON'T HAVE A
MODEM YET GET ONE TO OBTAIN SUPPORT FOR YOUR COMPUTER HOBBY.

RECENTLY I DECIDED TO TRY THE COCO FORUM ON THE BBS RUN BY COMPUSERVE,
WHICH IS A WORLDWIDE BBS THAT REQUIRES A MEMBERSHIP FEE BEFORE THAT BBS CAN
BE USED AND A TELEPHONE CONNECTION CHARGE. I ENTERED GO COCO AT THE PROMPT
ON THE SCREEN AND I WAS CONNECTED WITH THIS GROUP. IT WAS INDICATED THAT THE
GROUP WAS INDEPENDENT OF RADIO SHACK. MEMBERSHIP IS OPEN TO ALL AT NO
ADDITIONAL CHARGE EXCEPT FOR THE NORMAL ON-LINE CONNECT CHARGES BUT IS
DELETED IF ONE DOES NOT ACCESS THIS FORUM AT LEAST ONCE WITHIN TWO MONTHS.
MESSAGES CAN BE READ, STORED FOR OTHERS TO READ, OR READ "LIVE" IN CONFERENCES
WITH OTHERS WHO ARE CONNECTED. A LARGE SHARE OF PUBLIC DOMAIN SOFTWARE IS
ALSO AVAILABLE FOR THE USER TO DOWNLOAD. THERE WERE AROUND 5,000 MESSAGES FOR
THE FORUM READER. THAT'S A LOT OF MESSAGES TO BROWSE THROUGH! SO IF YOU HAVE
THE CASH TO SPARE FOR THIS SERVICE, THERE'S A LOT OF INFORMATION OUT THERE TO
SUPPORT YOUR HOBBY. ADD TO THAT WHAT YOU CAN GET FROM A SIMILAR SERVICE
CALLED DELPHI AND OTHER COMPETING SERVICES PLUS WHAT IS AVAILABLE FROM VARIOUS
BBS'S LIKE JIM SNIDER'S BBS AND YOU HAVE A LOT OF HOBBY INFORMATION AVAILABLE
TO USE. IN THE FEB. 1991 RAINBOW MAGAZINE ON PAGE 99 IS A DELPHI AD OFFERING
20 EVENING HOURS OF DOWNLOADS AND CHAT FOR $20.00, PROVIDED THAT YOU HAVE
PAID THEIR MEMBERSHIP FEE OF $39.95. SO A LOT OF POSSIBILITIES ARE THERE FOR
YOUR CONSIDERATION. I RECENTLY CONTACTED CCOG MEMBER BILL ZIMMERMAN TO TRY
CONNECTING TO HIS COCO THROUGH OUR 300 BAUD MODEMS. IT WORKED VERY WELL AND
WE MANAGED TO COMMUNICATE MESSAGES CLEARLY. WHAT IS OF INTEREST IN THIS IS
THAT ONE CAN TRANSMIT PROGRAMS VERY EASILY THIS WAY TOO. HOWEVER THIS WAS
ONLY AN EXPERIMENT SINCE ALL OF IT CAN BE DONE MUCH BETTER THROUGH USING JIM
SNIDER'S BBS.

IT WAS INTERESTING TO READ CLUB MEMBER KARL SEFCIK'S DESCRIPTION OF A NEW RAMTRON CHIP DISPLAYED ON JIM SNIDER'S BBS. KARL INDICATED THAT THIS CHIP RETAINS IT'S INFORMATION EVEN AFTER THE COMPUTER IS TURNED OFF AND THAT IT MAY BE USED ON FUTURE COCO4 TYPE OF COMPUTERS. UNFORTUNATELY IT CANNOT BE WITH THE COCO3 ACCORDING TO KARL.

MEMBERSHIP IS NOW OPEN IN THE VFW TO VETERANS OF THE PERSIAN GULF WAR. THEIR INITIAL MEMBERSHIP AT THE LIVONIA VFW POST 3941 IS FREE. SO IF ANY OF YOU HAVE CONTACT WITH SUCH PERSONS, LET THEM KNOW THEY ARE ELIGIBLE NOW TO JOIN THE VFW.

A REMINDER ESPECIALLY FOR NEW MEMBERS OF THE CCOG, THE VFW USES YOUR MONEY DONATIONS FROM OUR CLUB IN IT'S MANY CHARITABLE ACTIVITIES ESPECIALLY CONCERNING UNFORTUNATE HOSPITALIZED VETERANS. IT'S ALL GOING FOR A GOOD CAUSE. THE LIVONIA VFW ALSO COLLECTS USED BOOKS AND MAGAZINES TO GIVE HOSPITALIZED VETERANS. SO IF ANY OF YOU WANT TO CONTRIBUTE SUCH, WHICH YOU WOULD OTHERWISE DISCARD, GIVE THEM TO THE VFW BARTENDER TO MAKE SOME UNFORTUNATE VETERANS HAPPY. ALSO WE OWE SOME THANKS TO THE VFW BARTENDER BECAUSE HE VOLUNTEERS HIS TIME TO OPEN THE VFW POST FOR US AND SERVE US DRINKS. HE GETS NOTHING FOR PROVIDING US THIS SERVICE SO LET HIM KNOW YOU APPRECIATE HIS EFFORTS FOR US WHENEVER YOU CAN.

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NEWS & VIEWS BY ROBERT GAULT

THIS HAS BEEN A BUSY MONTH FOR ME AND I HAVE NOT FOUND THE TIME TO WRITE MY USUAL COLUMNS. INSTEAD I AM GOING TO TELL YOU SOME OF THE PROJECTS I HAVE BEEN WORKING ON.

FINALLY I GOT A HARD DISK SYSTEM UP AND RUNNING. I HAD PURCHASED LARRY'S SYSTEM BUT MORE OR LESS LEFT IT IDLE. THE SYSTEM WAS AN RGB/KEN-TON WITH A 10MEG DRIVE. RGB SOFTWARE LET'S YOU PARTITION A HARD DRIVE INTO OS-9 AND RSDOS SECTIONS.

NOT KNOWING WHAT I WANTED FOR PARTITION SIZES, I DID NOT WANT TO HAVE TO MAKE SEVERAL DIFFERENT EPROMS JUST TO EXPERIMENT. (RGB DOS "REQUIRES" THE RSDOS PARTITION OFFSET TO BE PLACED IN ROM.) SOME TESTING SHOWED THAT YOU CAN EASILY POKE THE PARTITION VALUES INTO RAM. RGB DOS IS HAPPY AND THE SYSTEM IS THEN FLEXIBLE FOR TESTING.

DURING THE ABOVE TESTING I FORMATTED THE DISK AND HAD INDICATIONS THAT THE DRIVE MIGHT BE GETTING ON ITS LAST LEGS. JIM (OUR BBS SYSOP, KNOWN AND LOVED BY ALL) SUGGESTED A DRIVE REPLACEMENT BEFORE DISASTER STRUCK. I AGREED WITH AN ADDITIONAL DRIVE AS 10MEGS ISN'T BIG ENOUGH. (IT'S ONLY EQUAL TO SIXTY THREE 35 TRACK DRIVES!)

FOR ANYONE DECIDING TO PURCHASE COMPUTER EQUIPMENT, THE FIRST PLACE THEY SHOULD LOOK IS "COMPUTER SHOPPER." THIS TWO POUND 800 PAGE MONTHLY IS A GOLDMINE OF ROCK BOTTOM PRICES. EVEN IF YOU DON'T INTEND TO MAIL ORDER, IT IS GREAT FOR FINDING CURRENT PRICES. HERE IS SOME CURRENT INFO ON HARD DRIVES FOR POTENTIAL BUYERS.

THE RGB SYSTEM CAN USE EITHER MFM OR SCSI DRIVES, LARRY HAD GONE THE MFM ROUTE WITH AN ADAPTEC CONTROLLER CAPABLE OF DRIVING TWO MFM HARD DRIVES. NEW SCSI DRIVES HAVE THEIR OWN ONBOARD CONTROLLER. YOU WOULD THINK THAT MFM DRIVES WOULD BE CHEAPER, RIGHT? AFTER ALL THEY DON'T HAVE AN ONBOARD CONTROLLER. NOT SO, THE BUY OF THE MONTH SEEMS TO BE A SEAGATE 296N (80MEG SCSI $319). THIS DRIVE IS ALMOST HALF THE PRICE OF AN 80MEG MFM DRIVE AND ONLY TWICE THE PRICE OF 20MEG MFM DRIVES. I DON'T UNDERSTAND IT EITHER!

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NOTES FROM JIM: I MUST CLARIFY SOME OF BOB'S STATEMENTS. RGB DOS ONLY TALKS
TO SCSI INTERFACES. IT COULD CARE LESS IF IT'S A DRIVE WITH AN EMBEDDED SCSI
CONTROLLER OR A SEPARATE STAND ALONE CONTROLLER BOARD. BY THE WAY, AN ADAPTEC
4070 WILL TALK TO RLL FORMAT DRIVES. THE ADAPTEC THAT BOB HAS IS THE 4000A,
IT TALKS TO MFM TYPE DRIVES. RGB DOESN'T CARE, THAT'S THE CONTROLLERS JOB.
AS LONG AS THE DEVICE IS A SCSI DEVICE, RGB WILL TALK TO IT.
****

     SO NOW I HAD MY SECOND DRIVE AND IMMEDIATELY RAN INTO TROUBLE. (MY OWN
LACK OF KNOWLEDGE.) HOW TO HOOK IT UP? THE EDGE CARD ON THE DRIVE WAS NOT
THE SAME AS MY ORIGINAL DRIVE. (DUMMY, OF COURSE NOT. IT HAS A BUILT IN SCSI
CONTROLLER.) NOW WHAT TO DO? (DUMMY, MAKE A NEW SCSI CABLE WITH TWO 50 PIN
SOCKETS.)

     IF YOU THINK FINDING THE CORRECT 50 PIN SOCKET SHOULD BE EASY YOUR WRONG.
SOMEONE IN TOWN IS CORNERING THE MARKET ON 50 PIN SCSI TYPE HARDWARE AND ON
THE 10 PIN PLUGS USED FOR THE COCO3 RGB OUTPUT AS WELL.

     NOW HAVING FINALLY GOTTEN BOTH DRIVES INSTALLED IN ONE CHASSIS, HOW TO MAKE
IT WORK? THE RGB SOFTWARE WILL TALK TO 9 DIFFERENT DEVICES ON THE SCSI BUS;
CHANNEL #0 DRIVES LUN 0 & 1, CHANNELS #1 - 7 OTHER DRIVES OR DEVICES. SINCE
THE ADAPTEC CONTROLLER WAS ON CHANNEL #0 THE NEW 80MEG DRIVE WOULD BE ON
CHANNEL #1.

     RGB DOS HAS A COMMAND TO SWITCH CHANNELS BUT BE ADVISED THAT WITH THE
CURRENT SOFTWARE YOU WILL GET AN ERROR THE FIRST TIME YOU ACCESS A NEW
CHANNEL.

     NEXT PROBLEM, I WANTED TO PARTITION BOTH DRIVES WITH AN OS-9 SECTION.
REMEMBER THAT RGB DOS WANTS "THE OFFSET" IN ROM. NOTE THAT IS AN OFFSET NOT
TWO OFFSETS. THERE IS NO REASONABLE WAY TO GET IDENTICAL PARTITION OFFSETS
IN MY SYSTEM UNLESS I WOULD ACCEPT A MOSTLY RSDOS TYPE 80MEG DRIVE. NO WAY!

****
NOTES FROM JIM: THE ADAPTEC CONTROLLER ACTUALLY IS 2 DEVICES ON THE SCSI
BUSS. IT CAN CONTROL 2 SEPARATE DRIVES, HENCE 2 ADDRESSES. BOB'S 80 MEG
DRIVE SHOULD BE ADDRESSED AS SCSI DEVICE #2 FOR PROPER OPERATION. ALSO,
RGB DOES NOT WANT THE OFFSET TO BE THERE, IT'S FOR THOSE THAT WANT RS-DOS
TYPE HARD DRIVE AREAS THAT IT HAS TO BE THERE ! LET'S KEEP OUR FACTS CORRECT
HERE...
****

     HERE IS MY WAY OF BYPASSING THE PROBLEM. I HAVE TWO PROGRAMS, ONE ON
EACH DRIVE, WHICH POKE THE CORRECT OFFSETS AND MAXIMUM DRIVE NUMBERS INTO
RAM. IS THIS THE BEST WAY TO GO? PROBABLY YES; HERE IS AN EXAMPLE.

     I INSTALLED MY HARD DRIVE VERSION OF LYRA ON THE SYSTEM ON DRIVE 2.
LYRA COULD NOT READ THE DRIVE. I PUT IT ON DRIVE 1; SAME RESULT! (DUMMY,
LYRA USES THE ROMS FOR DISK I/O AND YOU DON'T HAVE A PARTITION OFFSET IN
ROM!) HMMM, IF I PUT AN OFFSET IN ROM I'LL LOSE FLEXIBILITY AND CAN'T USE
BOTH DRIVES ANYWAY.

     I MODIFIED LYRA TO USE RAM DISK I/O INSTEAD OF ROM. NOW LYRA NOT ONLY
FUNCTIONS NORMALLY ON THE FIRST DRIVE BUT ON BOTH DRIVES! THIS COULD NOT BE
DONE WHILE CONFORMING TO THE RGB METHOD OF ROMED DATA.

     NEXT PROBLEM! LET'S GET OS-9 UP AND RUNNING ON BOTH DRIVES. TO MY
KNOWLEDGE THE CURRENT RGB OS-9 HARD DISK DRIVER DOES NOT SUPPORT SCSI
CHANNELS #1-7. LUCKILY FOR ME, RGB THOUGHTFULLY PROVIDES THE SOURCE CODE

FOR THE HDISK DRIVER. SO LET'S MODIFY THE DRIVER TO TEST THE CURRENT DRIVE NUMBER. /H0 AND /H1 CAN BE ASSIGNED TO LUNs 0 & 1 ON CHANNEL #0 AND /H2 - /H8 CAN BE ASSIGNED CHANNELS /H# - 1.

NOT BAD! WORKS NICELY BUT STILL GIVES AN ERROR ON THE FIRST ACCESS OF A NEW SCSI CHANNEL JUST LIKE THE RGB DOS. (I LEAVE THAT PROBLEM FOR LATER.) NOW IF I COULD ONLY BOOT OS-9 DIRECTLY ON THE HARD DRIVES.

RGB DOS HAS AN ALMOST METHOD FOR A HARD DRIVE BOOT. YOU PATCH INIT AND CC3GO TO ACCESS THE DESIRED HARD DRIVE, CREATE A BOOTABLE FLOPPY WITH THE NECESSARY DESCRIPTORS AND DRIVERS, AND BACKUP THE FLOPPY TO AN RSDOS DRIVE ON YOUR HARD DISK. THEN YOU RUN THE RGB PROGRAM LINK.

AT THIS POINT, A DOS# (WHERE # IS THE HDRIVE WITH THE BOOT DISK) WILL CAUSE OS-9 TO START. BUT IS IT AN HARD DISK BOOT? SADLY IT ISN'T. DOS LOADS TRACK 34 FROM THE HARD DISK DRIVE BUT AS SOON AS THE OS-9 KERNEL STARTS RUNNING, FLOPPY /D0 IS STARTED AND THE os9boot FILE IS READ FROM THE FLOPPY. WHAT WENT WRONG?

WELL, TANDY OR MAYBE MICROWARE, HARD CODED THE KERNEL (SPECIFICALLY BOOT) TO ALWAYS GO TO THE FLOPPY CONTROLLER. THAT IS NOT OS-9 FRIENDLY; AFTER ALL OS-9 IS SUPPOSED TO USE DESCRIPTORS. ON THE OTHER HAND, HOW CAN YOU USE A DESCRIPTOR WHEN IT HASN'T BEEN LOADED YET. THE DISK DRIVERS HAVEN'T EVEN BEEN LOADED YET!

I COULD NOT LIVE WITH THIS SO I WROTE A NEW BOOT MODULE. NOW THE KERNEL LOOKS AT HARD DRIVE /H0, READS LSN0 TO FIND THE os9boot FILE, AND LOADS THE FILE FROM THE HARD DRIVE. THE RESET BUTTON FUNCTIONS THE SAME WAY.

I PLAN TO ATTEMPT A VERSION THAT WILL WORK WITH SASI AS WELL AS SCSI SYSTEMS. I ALSO HOPE TO SELL THE NEW BOOT AND INSTALLATION PROGRAM AS SOON AS AN ACCOMMODATION WITH KEN-TON CAN BE WORKED OUT. KEN-TON NOW OWNS THE RIGHTS TO THE RGB SOFTWARE AND THE SOURCE CODE FOR THE RGB hdisk.dr WAS INSTRUMENTAL IN CREATING THE NEW BOOT.

OH YES! ONE LAST THING. THE METHOD I DETAILED LAST MONTH FOR SWITCHING WINDOWS VIA SHELL SCRIPT FILES WILL ALSO WORK FOR MAKING A PERMANENT CHANGE IN YOUR DIRECTORIES. THIS HAS BEEN A GOAL OF MINE FOR SOME TIME.
EX.   (CHD /R0; CHX /R0/CMDS)</1
THE ABOVE COULD BE USED AS PART OF A BOOT INTO A RAM DRIVE SYSTEM.

==
OS-9 BY TOM NAPOLITANO
LETS CONTINUE ALONG THE VEIN OF DISK DRIVE MANAGEMENT AND LOOK AT A COUPLE MORE TOOLS USEFUL FOR KEEPING TRACK OF FILES ON YOUR DISK STRUCTURE. AS USUAL, THESE MAY BE FOUND ON THE CCOG BULLETIN BOARD. WE LEFT OFF LAST TIME WITH A NEW "MKDIR" TO MAKE DIRECTORIES AND SUBDIRECTORIES.
JUMP AHEAD IN TIME TO SIX MONTHS AFTER YOU'VE LOADED SOURCE FILES, EXECUTABLES, APPLICATIONS, DATA ETC. ON YOUR DISK, TO WHEN YOU NOW WANT TO FIND A PARTICULAR FILE SOMEWHERE IN THE TREE OF SUBDIRECTORIES YOU CREATED. RATHER THAN MANUALLY SEARCHING THROUGH THE DIRECTORIES, USE INSTEAD THE COMMAND "WHERES" TO FIND THE FILE "FRODO":
WHERES FRODO
AND THE ENTIRE DISK IS SEARCHED FOR THE STRING "FRODO", PRINTING TO STANDARD OUTPUT EACH OCCURRENCE. THE CURRENT DIRECTORY AND ALL SUBDIRECTORIES ARE SEARCHED OR YOU MAY SPECIFY A DIRECTORY PATH AS THE LAST ARGUMENT TO BEGIN THE SEARCH. BRUCE ISTED AND ZANE THOMAS BOTH WROTE THIS UTILITY.
THIS IS AN EXTREMELY HANDY PROGRAM AND I ENCOURAGE YOU TO PICK IT UP BECAUSE YOU WILL NEED IT EVENTUALLY. IT ALSO COMES IN HANDY FOR WHEN YOU MAY HAVE SEVERAL VERSIONS OF THE SAME PROGRAM FLOATING AROUND AND WANT TO FIND THEM ALL. "WHERES" IS SLOW, BE WARNED, BECAUSE CHANGING DIRECTORIES

AND READING EACH AND EVERY ONE TAKES TIME, BUT FOR THOSE TIMES YOU NEED IT, IT IS A NET TIME SAVER. ONE MORE THING IS THAT IT ACCEPTS WILD CARDS IN THE FILE NAMES.
FOR EXAMPLE,
```
     WHERES *.AR
```
WILL FIND ALL YOUR ARCHIVES ON THE DISK, WHEREVER THEY MAY BE.
```
     WHERES *.GIF
```
WILL FIND ALL THE GIF PICTURE FILES LAYING ABOUT.
```
     WHERES MY*
```
WILL FIND ALL FILES STARTING WITH "MY"

YOU MAY WANT TO RUN "WHERES" SEVERAL TIMES DURING YOUR ANNUAL SPRING HOUSECLEANING JUST TO TIDY UP FROM A YEARS WORTH OF DATA FILE ACCUMULATION.

SUPPOSE YOU DON'T WANT TO FIND INDIVIDUAL FILES, BUT WANT TO KNOW EVERYTHING THAT'S ON YOUR DISK, NO MATTER WHERE IT IS. YOU COULD MOVE ABOUT THE DISK CHANGING DIRECTORIES AND TYPING "DIR" UNTIL EXHAUSTED. AN EASIER WAY IS TO
TYPE:
```
     TREE /D0
```
WHICH WILL SHOW THE ENTIRE HIERARCHICAL STRUCTURE OF YOUR DISK, STARTING FROM THE ROOT DIRECTORY OF /D0 AND CONTINUING THROUGH ALL THE SUBDIRECTORIES, PRINTING OUT THE NAMES OF ALL THE FILES AS IT GOES. THIS IS GREAT TO DO JUST PRIOR TO BACKING UP YOUR ENTIRE DISK. REDIRECT IT TO YOUR PRINTER AND YOU WILL HAVE A PERMANENT RECORD OF WHAT IS ON YOUR DISK.
```
     TREE -F /D0
```
WILL SHOW YOU ONLY THE DIRECTORIES, NOT THE FILES, A MUCH SHORTER LIST. AGAIN, THIS IS A USEFUL OUTPUT FOR ARCHIVAL PURPOSES. THE DIRECTORIES ARE EACH INDENTED SO IT GIVES A READABLE PICTURE OF HOW THE WHOLE DISK IS ORGANIZED BY VARIOUS LEVELS OF SUBDIRECTORIES. YOU MAY ALSO WANT TO TRY THE OPTION:
```
     TREE -U /D0
```
WHICH WILL SHOW THE NUMBER OF SECTORS USED BY EACH FILE. THIS OPTION REQUIRES THE FILE DATA SECTOR OF EACH FILE TO BE SEARCHED SO WILL TAKE EVEN LONGER TO COMPLETE ON A WELL PACKED DISK DRIVE. YOU MAY ALSO USE OPTIONS IN CONCERT TO COMBINE THEIR EFFECTS AS IN:
```
     TREE -FU /D0
```
WHICH WILL SHOW ONLY THE DIRECTORIES, NOT THE FILES, BUT WILL SHOW THE TOTAL SECTORS USED BY THE FILES CONTAINED IN EACH DIRECTORY. THIS IS HANDY BECAUSE IT HIGHLIGHTS THOSE DIRECTORIES THAT HAVE LARGE SECTORS ALLOCATED AND THEREFORE ARE LIKELY CANDIDATES FOR ARCHIVING AND DELETION.

THE LAST OPTION TO "TREE" THAT I WILL MENTION IS PERHAPS THE MOST OBSCURE:
```
     TREE -G /D0
```
WILL PRINT OUT EACH FILE IT FINDS ON A SEPARATE LINE, INCLUDING ITS FULL PATH NAME. THIS IS USEFUL ONLY IF YOU THINK BACK TO SOME PREVIOUS ARTICLES IN THIS SERIES. REMEMBER "EGREP"? THIS ALLOWED YOU TO FILTER STANDARD INPUT LOOKING FOR STRINGS TO MATCH AND ONLY PRINTING THOSE THAT MATCHED THE GIVEN STRING. WE MENTIONED AT THAT TIME HOW "EGREP" WAS USEFUL AS A FILTER IN A "PIPE". CONSIDER:
```
     TREE -G /D0 ! EGREP *.GIF
```
THIS IS ANOTHER WAY OF SEARCHING THE ENTIRE DIRECTORY TREE AND ONLY PRINTING THOSE FILE NAMES THAT END IN .GIF. OR REMEMBER THE "CALL" COMMAND?
```
     TREE -G /D0 ! CALL "LIST $ >/P" ! SHELL -T
```
WILL ATTEMPT TO LIST TO THE PRINTER EVERY SINGLE FILE ON YOUR ENTIRE DISK. (YOU MAY NOT WANT TO DO THIS TO BINARY FILES !) PERHAPS YOU HAVE NAMED ALL YOUR TEXT FILES WITH THE EXTENSION .TXT, THEN:
```
     TREE -G /D0 ! EGREP *.TXT ! CALL "LIST $ >/P" ! SHELL -T
```
WILL DO THE SAME LISTING, BUT ONLY FOR FILES ENDING IN .TXT.

THE POWER OF A COMPLETE BAG OF TOOLS, COMBINED WITH PIPES AND A MULTI-TASKING OPERATING SYSTEM LIKE OS9 ARE ONLY LIMITED BY THE CREATIVE USES YOU CAN FIND FOR THEM. MORE NEXT TIME, AND I PROMISE A BREAK FROM ALL THIS TALK ON DISKS AND FILES.

C.C.O.G.
COLOR COMPUTER OWNERS GROUP

Oldest COCO Club in Metro Detroit
Meetings the ~~Third~~ Tuesday of each month
7:00 PM — 9:30 PM
LIVONIA VFW — 7 MILE & MIDDLEBELT
SIDE DOOR — "THE FOXHOLE"

Join other COCO owners for Hardware and Software demos,
Public domain Library, Discounts, and general knowledge exchange.
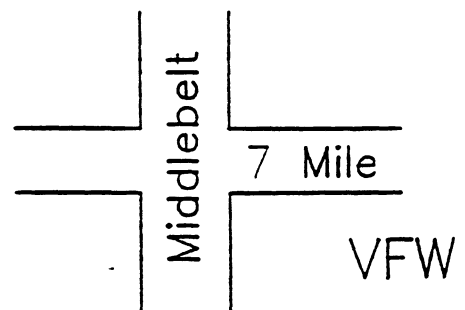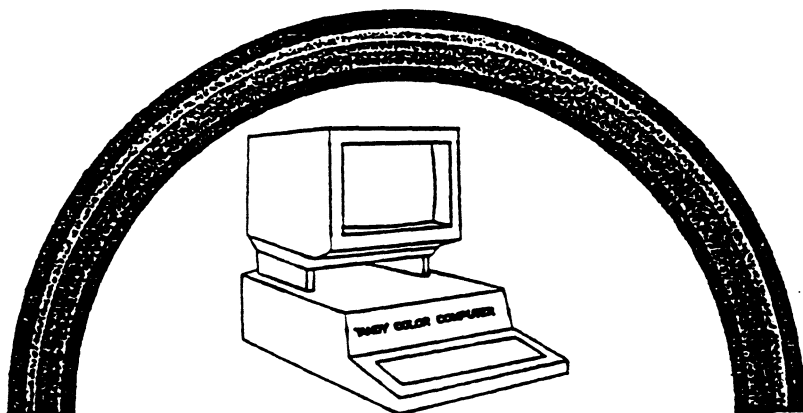
1991 Meetings

Jan 15	**Jul ~~16~~**
Feb 19	**Aug ~~20~~**
Mar 19	**Sep ~~17~~**
Apr 16	**Oct ~~15~~**
May ~~21~~	**Nov ~~19~~**
Jun ~~18~~	**Dec ~~17~~**

Call for NEW Meeting DAYS!!

MEETINGS INFORMAL AND OPEN TO THE PUBLIC

Contact: Bernie @ (313) 283-2474
or
BBS @ (313) 292-4713

Middlebelt
7 Mile
VFW

Color Computer Owners Group
c/o Bernie Patton
388 Emmons Blvd.
Wyandotte, MI 48192