HOUSTON AREA APPLE USERS GROUP

News from the Apple Barrel

Volume #2, No. 2 May, 1979

PREZ SEZ

You may have noticed there was no newsletter last month. That was my fault. I was taking up the slack time between Bob Collin's leaving and Ed Seger's taking over as editor of the Apple Barrel.

During March we had several assembly lanugage classes taught by David Black. Those of you who attended these classes know how fine a job David did. If you couldn't attend or didn't know about these classes, hang loose, we'll repeat them this summer.

Our next meeting will be May 9. Larry Shurr will be leading the seminare. His subject will be PASCAL. It's very possible that he will have PASCAL on an Apple! However, don't count on it. Larry is currently working on the PASCAL compiler of one of Apple's upcoming rivals. He should have lots of good things to tell us.

Several people have asked me about changing our meeting schedule to allow for two meetings per month. I have been agaist this idea for two reasons:

1.) our membership size did not warrent a 2nd meeting
2.) I have not had enought time to devote to one meeting a month much less trying for 2

The second reason still holds, but the first reason is no longer valid. We have grown an average of 10 people a month since January. I expect this rate to continue through the summer. As an organization we can not afford to continue thinking in terms of a limited membership. Multiple meetings per month is an excellent idea. There are also other things that can be done to increase the information flow to our members.

One other way is by creating sub-groups (or special interest groups). These groups could arrange their own meetings and activities using the centeral group for whatever general support is neccessary.

To futher the special interest group idea, I will have at the next meeting a roster listing which includes the top three interest areas for each member. There are many mistakes in this list, so as you are reviewing the list please make any corrections to your entry that are neccessary. For those of you who will not be at the meeting I will either call you are send you a letter requesting updated addresses, phone numbers, interest inventory, etc.

Before Larry's seminare on PASCAL, we'll spend about 45 minutes discussing the multimeeting month and the special interest groups ideas.

see you at the meeting

Dewayne

Dewayne Van Hoozer

* * * STEMS & SEEDS * * *

** A number of new programs for the Apple II have appeared in recent months and are available through Houston area Apple dealers. "Bridge Challenger" is an assembly language program which offers numerous options for taking on the Apple at cards. Set up your deal from the bridge column out of the Houston Post if you like!

** "Dr. Memory" is a word processor, available on disk, and would have been used to set up this issue of "News from the Apple Barrel" had a printer been available. Although the Apple you buy off the shelf does not display lower-case characters, "Dr. Memory" (and other available word processors as well) uses control characters to instruct a printer to print lower- or upper-case. The program searches for a word string, inserts into text, formats, justifies, changes lines, and in general does what you'd want from a basic text editor.

** "Disc Utility Package" gives access to your diskettes at the track and sector level and puts you on intimate terms with your files. It will reveal the starting address and length of binary files whose parameters may not have been saved in the file name, spies on hidden control characters, collects tokens and trades them for hexadecimal data, and even knows how to bring deleted files back from the dead! It also draws a map of disc space and leaves no question whether or not you have room left on any given disc to squeeze on one more file. And if you're desperate for space, it will strip the DOS right off your disc and leave breathing room for one more 9K program.

DATA BASE

by: THE MAD BOMBER

What is a DATA BASE? It's a great big heap of data.

In order to give you a better answer I'm going to go back in time to the early computers and explain the evolution of data.

Data, some times called information, started out in the cave man days as socialised sounds. One kind of grunt meant "KEEP AWAY FROM MY WOMAN". Another kind of grunt meant "MUCHO BIG CAVE MAN EATING BEAST IS HEADING THIS WAY". Slowly the grunts became words. The words were formed into phrases. The phrases were forced into complete sentences. Soon after that came speeches. The first filibuster is usually credited to a politican debating the negative on a resolution to move from the path of an on coming flood.

Data processing on computers evolved in much the same way. There was first only one kind of data being acted upon. We started by summing a column of numbers. Then we moved on to using two kinds of data. Then three kinds, etc. Today automatic data processing involves many different kinds of data.

The relationship of one kind of data to another kind has not changed. We now have more data and hence more interrelationships. The ways of storing these relationships and accessing them has undergone a change for the better.

One of the early storage media was the punched card. It became common place to assign groups of columns on the card to represent certain kinds of data. It was much easier to let one card contain data that was related than to allow any kind of data to appear together. This collection of data under a specific relationship gave birth to such things as: TIME CARDS, PAYROLL CARDS, PROJECT CARDS, ORDER CARDS, INVENTORY CARDS, FRENCH POST CARDS, etc. A box of time cards was refered to as a time file. Groups of project cards became a project file, etc.

A time card usually contained such information as employee's name, date, and number of hours worked. A payroll card usually contained in addition to the employee's name his rate per hour, total number of hours worked this month and the total amount paid to him to date for tax purposes.

The use of an employee's name on the time card and the payroll card became unmanageble. Computer's back then couldn't tell that Mr. Jones, B. Jones, and Bob Jones,Jr. were the same person. So, a new card was developed which had an employee number, the employee's name, his address,city,state,zip code and other static information about the employee. The names on the time card and payroll card were replaced with the employee number.

In order for the computer to process the monthly payroll the time cards and the payroll cards had to be combined. Here's where the computer people started to get really uptown with their programs. For a given employee you had to add all his

daily time cards to get the total number of hours he worked this month. Next you would multiply this sum by his rate per hour to get the amount for his pay check. You also had to create a new payroll card for him to show the latest data. Not only did the time cards and the payroll cards have to be together but the time cards had to come first in front of the payroll card.

This sorting of cards based upon employee was done by hand until someone invented a machine to sort cards. There were all sorts (no pun intended) of problems which had to be resolved. What if there are time cards for an employee but no payroll card? What happens when an employee has two payroll cards? And so on... It would have been much easier if you could put the time card data on the same card as the payroll card, but there were only 80 columns on a card. Gee, wouldn't it be nice if you could have a card with 160 columns?

At some time in the past a Rice grad with a time machine peeked into the future. He saw all us computer hobbiest using tape recorders to store information. When he got back to his own time this Rice guy built a big tape drive machine which was hooked up to the computers in much the same way as the card reader machines had been.

In place of using cards with holes punched in them to store data, the programmers could now use magnetic regions on tape. They still had to keep there data together by relationships so they invented records. A record, like the card, is a collection of related data items. There was no excuse anymore to be limited to 80 columns of data. Of course on a tape record there are no such things as columns. They call them characters or some times bytes. I would have thought the programmers would have started using 160 character or larger records. For some reason the programmers continued to think of records as cards and hence were limiting themselves to 80 character records. Would you believe that even today there are still programmers out there who think in terms of 80 column records??!!

As time went on the size of records grew past the self restricted 80 characters limit. The concept of files was harder to leave behind. There still exist with the tape drives time files, payroll files, project files, order files, inventory files, etc. To process the monthly payroll still required the sorting of the time file and the payroll file together. Now with tapes computers could do the sorting themselves, so the monthly processing went faster.

When disk drives were invented the concept of files was still firmly installed in most programmers.

When we went from cards to tape the amount of data that was stored was increased. Same thing happened when we went from tape to disk. The increase in data was mainly due to the greater capacity of the storage media. We could store more so why not pile more data into the big gray beast. All computers were gray back then.

DATA BASE (con.)

This mountain of data which was shoved in was spread out over hundreds of files. With so many files hanging around it was very hard to get anything done. Every file contained a data item which was also contained in another file. Duplicate data abounded. No programmer was ever sure which piece of data was the latest, most up to date version. There just has to be a better way!!

At coffee break one afternoon not too many years ago several aggie computer programmers were discussing data relationships, French post cards, and what sad shape the world was in. It occured to one of the programmers that if they could some how dump all the computer files out onto the floor into one large heap of data that they could write their programs easier. For a program to produce a report all it had to do was to go over to the data heap and extract by its root anchor point the data items needed for the report and throw them out to the printer.

That's how data base theory was invented.

Next month, unless I'm caught, I'll send the editor the next installment of this data base series. In the series we will get deep into data structures and how these structures are used in the three basic kinds of data base management systems.

BOMBS FOREVER!!

* * * STEMS & SEEDS * * *

** For any of you who have been intrigued by the "Superchip" advertised in BYTE, Ed Seeger and Jack Turner have each sprung for one, and we hope to review the chip next issue. If you haven't seen alphanumeric characters on your hi-res screen, and can't see $100 for the firmware, take heart! Apple itself (herself?) will shortly release Software Bank vols. 3, 4 and 5, and there is in there a good hi-res character generator for Integer Basic. Also out is the "Screen Machine" program, which accomplishes the same. Ed is working on creating the whole Hebrew alphabet and has DeWayne's assurance it really can be made to print out from right to left on the screen.

** Also in the newest Software Bank is the hi-res kaleidoscope that was running during the last users group meeting. Beautiful on a 6-color Apple. Requires the Programmer's Aid #1. Maybe on a giant Advent screen?!

** Look for a new version of the DOS, which will be accompanied by a manual of some 200 pages! Apple has decided to tell all concerning its Disc Operating System at last! An interesting feature of this release, which can, by the way, be incorporated onto your existing discs, is a Renumber-in-Applesoft. Even takes into consideration every GOTO and GOSUB address. Has 16 video pages of instructions, too. A thorough job and worth getting.

43 OR NOT 43

For those of you who understand number systems, the title of this article is in decimal. However, Shakespeare always wrote his famous quotes in hexidecimal(a little know fact.). Seriously, his famous quote brings me to the point of this article which is to review where we've been and where we are going.

Since the introduction of the Apple II we have all heard of the fantastic growth of the Apple Company. We have seen the advent of new gimmicks, gadgets and accessories. Software for the Apple has multiplied to a staggering volume and the level of sophistication has gone from low-res shoot 'em up games to compilers and data base packages. This rapid growth has been somewhat similar to what IBM has experienced in the last 10 years. However, we have done ours in one year.

Parallelling the growth of the Apple II, we have seen a growth in our club membership. Every meeting brings new faces to our club as more and more people find enjoyment in home computers. Although this growth has been good for the club in many ways, it has presented us with new problems and challenges. No longer can we assume that the full membership has an intimate knowledge of computers in general or that they have programmed other computers before. This wide disparity in knowledge makes it extremely difficult to conduct a general meeting which appeals to everyone. At the last two meetings I asked for suggestions which might improve the club and make it function better for all of us. I was disappointed in the number of responses I received. However, the quality was excellent. One suggestion could be the answer to a couple of problems. David Novak suggested that we hold two meetings each month; one during the week and one on a weekend. This would give us more time to concentrate on software exchange, answering personal questions and holding talks geared to the beginning Apple user. This suggestion will be talked about more in our meetings so think about what times and days would be best for you.

I don't know how many of you have ever written articles for a newsletter, but let me say that the worst thing that can happen is for there to be no news to publish!!! When it comes to the point where no one submits articles and the few of us who are responsible for this publication must sit down with the instruction to "write two pages about anything", then there is no reason to waste money publishing. We are now seeing these symptoms appear. What I am saying is that we need more input from you. Give us an article or some information you came across which you want to share with your club. I'll make it even easier, just give us a topic you would like us to write about. What about this? If we had a "Ask Doctor Apple" column to answer your questions, would you give us questions? Please think about it.

A lot of people have come to our meetings one or two times and then never show up again. This indicates to me that we could be doing more. We will try to do more but we must have your help. So, do what you can for the club and take

an active interest in it. With your help, by this time next year the Apple experience could be bigger than IBM.

-- Bruce Barber
Vice President

```
*1167.1168

1167- F0
1168- 3D
*11A6L

11A6-   4C 00 13    JMP   $1300


1143-   4C 25 13    JMP   $1325

*1300L

1300-   E6 C4       INC   $C4
1302-   D0 02       BNE   $1306
1304-   E6 C5       INC   $C5
1306-   A5 4D       LDA   $4D
1308-   C5 C5       CMP   $C5
130A-   D0 04       BNE   $1310
130C-   A5 4C       LDA   $4C
130E-   C5 C4       CMP   $C4
1310-   B0 03       BCS   $1315
1312-   60          RTS
1313-   00          BRK
1314-   00          BRK
1315-   B1 C4       LDA   ($C4),Y
1317-   D0 09       BNE   $1322
1319-   20 8E FD    JSR   $FD8E
131C-   4C 4A 11    JMP   $114A
131F-   00          BRK
1320-   00          BRK
1321-   00          BRK
1322-   4C 50 11    JMP   $1150
*L

1325-   B1 C4       LDA   ($C4),Y
1327-   D0 03       BNE   $132C
1329-   4C 6C 11    JMP   $116C
132C-   4C 50 11    JMP   $1150
132F-   00          BRK
1330-   00          BRK
```

Joseph Bloxon offers this modification of the Appen-1 text editor, making it print an 80-character wide page, rather than the 40 it was originally written for.

Joe points out that the mod is in the print-out portion of the program only. Unmodified lines in that section are not reproduced at left, only those where a change is to be made.

The Appen-1 manages free-form text and other information, using a cassette rather than a disk. If you have need of the basics of word-processing, but do not have a disc system, the Appen-1 may be useful to you, more so with Joe's modifications.

The changes, of course, need to be saved back onto tape, starting at location *300.

*800G is entrance into the program.

*803G is re-entrance into the program, but without destroying data.

*1120G is entrance into the print portion of the program.

>HAAUG VOL 35

```
>CATALOG
DISK VOLUME 094
 I 005 HELLO
 I 004 TOP
 I 005 ADD
 I 005 DELETE
 I 005 UPDATE
*I 003 CAT
*I 005 MENU
*I 024 EXAMINE
*I 006 MATH DEMO
*I 019 SPEECH TOWERS
*I 017 APPLEJACK W/SPEECHLAB
*I 052 TALKING CALCULATOR
*I 005 SPECTRUM ANALYSIS
*I 024 A/C SIMULATOR (HM:8192)
*I 015 APPLE-LIS'NER
*I 003 APPLE-LIS'NER PREFIX
*I 009 SPACE BATTLE
*I 008 QUADRIPONG
*A 013 WEEKDAY
*B 003 NUMBER CRUNCHER (300.3FF)
*I 015 FLAG
*A 014 TIME
*A 022 TELEPHONE
*A 003 MOIRE
*I 027 INTROL TALKER
*I 052 APPLE '21'
*I 002 MEM DUMP (MULLER)
*I 014 BINARY PROGRAMMER
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>HAAUG VOL 36

```
>CATALOG
DISK VOLUME 001
*I 006 HELLO
*I 002 DOCKING MISSION
*B 033 D M OBJ
*I 010 SPACE WARS
*I 008 WARDEN
*I 043 APPLESOFT
*A 006 STRING ART
*A 004 TV TEST
*A 010 POLYNOMIAL
*A 004 QUADRATIC
*A 004 THEVENIN #1
*I 003 MEMORY TEST
*B 002 MEMTEST
*I 004 ERRATA
*I 008 I>A
*B 002 MPP SOURCE MOVER
*I 009 SUBMOVER; LOMEM:-32767
*B 002 SUBMVR
*B 002 MATH-16
*A 003 PLANET
*A 008 MISSILE
*I 041 PDP
```

>HAAUG VOL 37

```
>CATALOG
DISK VOLUME 005
*I 007 BEGIN
*I 030 CALENDAR
*T 007 COUPON
*I 019 CARD FILE
*I 046 EXERCIZE
*I 005 ADD
*I 003 MENU
*I 002 EXAMINE
*I 003 CAT
*I 005 DELETE
*I 005 UPDATE
*T 002 DEMOS
*I 005 HELLO
*T 002 GAMES
*T 002 EDUCATIONAL
*T 002 BUSINESS
*T 002 MATH
*T 002 UTILITY
*T 002 OTHER
*I 002 CATD
```

>HAAUG VOL 38

```
>CATALOG
DISK VOLUME 012
*I 032 HELLO
*I 032 COLOR & SOUND 16384

*A 013 CORPORATE PROFIT
*I 012 MERLIN MAZE
*I 023 DEVILS DUNGEON
*I 058 OREGON TRAIL
*B 012 APPILOT
*B 016 EDITOR
*I 052 APPILOT AIDS
*I 042 HOW TO EDIT
*I 038 HOW IT WORKS
*A 012 INCOME PROPERTY EVALUATION
*A 015 UNCLE SAMS JIGSAW
*I 005 HELP
*B 016 MAP
```

```
>HAAUG VOL 39

>CATALOG
DISK VOLUME 001
*I 028 HELLO
*I 028 MISSION: U-BOAT
*I 043 APPLESOFT
*I 022 HUSTLE
*A 013 AIRFOIL
*A 029 MICROLISP
*I 006 SHOOTOUT
*A 010 HI-RES CHARACTER DEMO
*B 003 HI-RES CHARACTER GENERATOR
*B 006 CHARACTER TABLE
*I 026 APPLE VISION
*I 014 ENGINE
*B 006 INTEGER HI-RES
*A 093 FILE CABINET
*I 037 KALEIDOSCOPE
*I 026 CHASER
*I 093 DRIVER'S TEST


>HAAUG VOL 40

>CATALOG
DISK VOLUME 017
*I 021 HELLO
*A 041 RISK
*B 014 RISK2
*I 032 COLOR & SOUND 16384
*I 024 PAULS SONGWRITER
*A 012 MATCH STICK GAME
*A 021 CRAPS DICE GAME
*A 006 FACTOR GAME
*A 025 STAT 20
*A 022 SWARMS INSTRUCTIONS
*A 047 SWARMS
*A 012 INCOME PROPERTY EVALUATION
*I 007 VIVALDI
*B 006 WINDOW
*I 003 ELUSIAN WINDOW HIMEM:8192
*A 023 SUB2
*A 003 BIRTHDAY
*I 026 APPLEODION
*B 008 WILLIAM TELL
*B 021 SELECTED CLASSICS
*B 003 MERRY OLDSMOBILE
*I 003 ROTATING SHAPE
*I 004 SOUND EFFECTS
*I 003 SPEECH RECOG LOMEM5500


>HAAUG VOL 41

>CATALOG
DISK VOLUME 002
*I 004 COMMON
*I 006 PHONE LIST
*I 006 PRINTOUT
*I 004 INITIALIZE
*I 003 INIT
*I 011 MAILIN
*I 006 SORT
*I 002 QUALIFIERS
*I 013 REVIEW
*I 004 ERASE
 T 002 LAKE
*I 053 APPLE STARTREK
*I 030 STAR WARS
*A 026 PROJECTILES
*A 014 BUZZWORD GENERATOR
*A 010 MAZE BUILDER FOR PRINTERS
*A 035 THE WORD
*A 021 TAG CHECK
*A 022 SYNC PATTERN
*I 019 CARD FILE
 T 014 POINTERS
 T 008 FILE FOR CARD FILE


>HAAUG VOL 42

>CATALOG
DISK VOLUME 001
*A 002 HELLO
*A 050 MAILING LIST
*A 003 BUILDFILE
*I 006 COPY
*B 007 COPY.OBJ
*A 005 SORT
 T 002 A
```

```
Pascal programs
  Labels
  Constants
  Types
    Scalar types
      Enumeration types
        Pre-defined
          Integer
          Boolean
        User defined
        Ordinal values
      Real
    Structure types
      Array
      Set
      Record
      Pointer
  Variables
  Nested routine defintions
  Program code
    Statements
      Simple statements
        Simple expressions
        Expressions (adds boolean operators)
        Set expressions
        The dreaded semicolon
        The empty statement
        The assignment statement
        Routine calls (procedures and functions)
        GOTO
      Structure statements
        BEGIN ... END (the compound statment)
        IF
        WHILE
        REPEAT
        FOR
        CASE
        WITH

I/O
  Stream I/O
  Text
    Formatted and unformatted
    READ
    WRITE
  Binary
    File pointer
    GET
    PUT
  Storage
    The stack
    The heap

Why Pascal
    Block structure
    Language and thought
```

This is the approximate outline of Larry Shurr's talk on PASCAL, scheduled for the users group meeting Wednesday, May 9th. Many in the computer field believe that PASCAL will in time achieve eminence as a widely-used programming language. It is true that the Apple will be running PASCAL, and is in fact doing so in demonstrations.

Larry Shurr has been working on and in PASCAL for five years now, and has been in compiler development for Texas Instruments for a year.

He is eager to get more involved with HAAUG as member and software consultant.

-ed

Implementation
  The P-machine

Some disadvantages
  Syntax restrictions : imposed by original 1 - pass compilation
  Hardware and software requirements
  Your favorite language costruct may not be there

The UCSD system
  A Pascal operating system
  Disk based O. S. with its own file management
  P - code interpreter
  Pascal compiler
  Basic compiler
  Utilities
  Demonstrated code quality
  Most of the system is written in Pascal
  Full subscription gets you a copy of the source

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* *
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* *
****

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MEETING NOTICE — The next meeting of HAAUG will be on Wednesday, May 9th, at 6:30 p.m. in the Jungmann Branch Library, 5830 Westheimer, just west of Chimney Rock. There will be a program and information exchange as usual. Bring your own recorder and cassette for best results in recording. Apple systems with disc and monitor are welcome to be set up. See you there! and bring an Apple Phreaque!! HAAUG membership dues are $12.00 per year, and carry the privileges of access to the 700+ program software library, newsletters, and voting rights. Membership does not require ownership of an Apple, but just an interest in the system and in learning more about it. The club roster has reached 80 and continues to grow.

EDITOR'S NOTE — This issue of "Apple Barrel" is long on prose and short on programs. Thanks to Joe Bloxon for sharing his Appen-1 mod. And a pox (a hex?) on all you Apple Phreaques who have written something you're proud of but haven't said so. Every program in our software library was created by a programmer who wasn't too bashful to let the rest of us in on the good work. So if you're POKE-ing on the keyboard these days, how about letting the club take a PEEK at what you've accomplished? Someone out there needs what you have written, and you can use what others have created. Fair deal? Go to it!