hard core

THE JOURNAL OF THE BRITISH APPLE SYSTEMS USER GROUP

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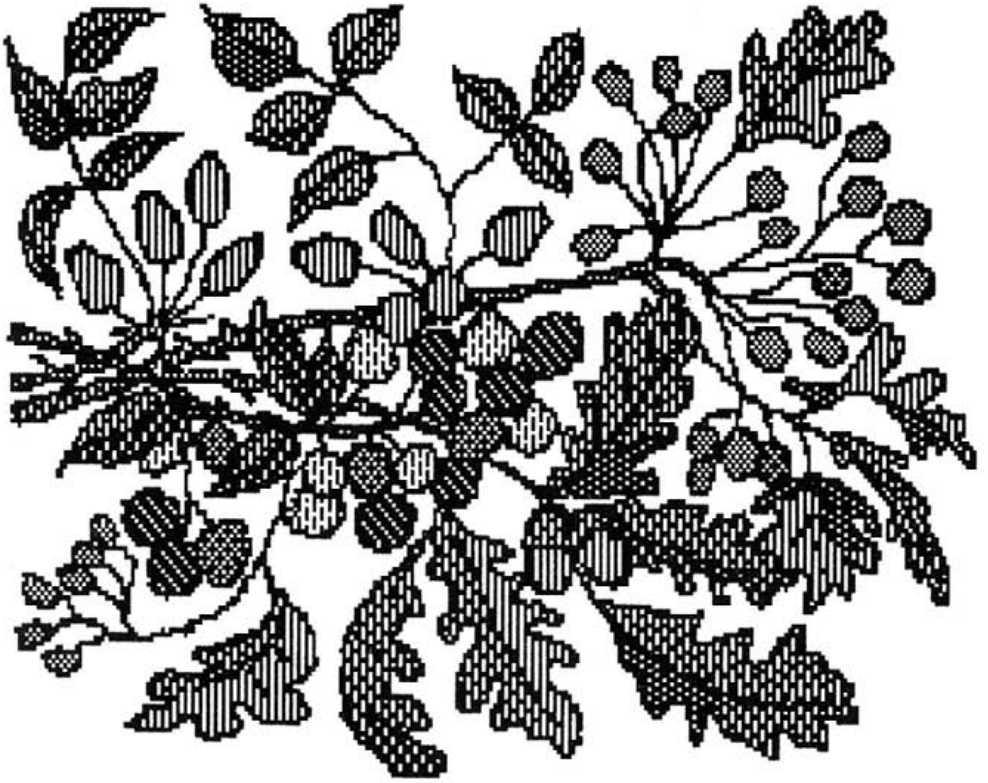

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MEMBER OF THE
INTERNATIONAL APPLE CORE

EDITORIAL

by Tony Williams

Starting a computer club yourself is not as difficult as you might at first think, writes BASUG member Neville Ash in Personal Computing Today (November, 1982). Amen to that, say we in BASUG: starting it is not so difficult; the trick is to maintain momentum in the long years to come. After running through the various benefits to be derived from membership of a computer club, Neville Ash touches on "one club" that "offers a disc full of programs for £3" - a bargain, he adds. That "one club" sounds reminiscent of BASUG - and we think the software library is our number one drawing point (after Hard Core, of course). Which brings me to the point of this editorial. A "disk full of programs" may be no bargain at all even at three pence a disk, if, one, the programs are no good, and, two, nobody has documented their contents. Which brings me again to the point. It is up to you members, you who have forked out your three poundses over the years, to tell us about your findings. Some of the disks are very specialized in their application, and it is out of the question for John Rogers, the Software Librarian to attempt himself to form a judgement on them or indeed to ask around among his friends and colleagues "Is there anyone who knows anything about Quad Antenna Design?" (Disk No 42 - Electronic Aids). Far better when R.D. Purves comes along and tells us from his expert standpoint just why our Disk No. 32, Mathematics and Statistics, for example, is undiluted garbage. Ideally we need a review of every disk in our software library. For this reason please turn to John Rogers' article in this issue where he spells out in detail what reviews he wants and in what form wants them.

Could I now give a reminder about the form for articles you send in for inclusion in Hard Core. Please send them in on disk - Applewriter I or Applewriter II will do nicely thank you. Your article will be spirited away and your disk returned (immediately it lands on the editor's desk, that is). Then at some later date you will receive notification of the number of Software Library credit points your contribution has chalked up. It is also doubly useful if you accompany your article by a hard copy. Please make this copy 9cm wide, fill justified, not condensed, not pasted up or trimmed in any way. Please assume that the magazine will be produced in A4 format. If your printer does not have true descenders we will not be able to use it (except for listings). Please make listings the same 9cm width and remember that there will not be room for enormous listings - in which case you may find that your contribution has been switched to the Software Library. Please use a fresh or nearly fresh ribbon in your printer and not blue! Letters to the editor: We do not really mind receiving handwritten letters as long as they are legible. It is not really worth sending a disk containing a short letter. Please clearly differentiate between letters to the editor and other messages, orders, software matters, etc. Put each type of communication on a separate sheet of paper, if possible.

Would advertisers please bear in mind that Hard Core appears in A5 format. Their camera-ready artwork should be trimmed for A5 or, if not, it should be capable of photographic reduction to A5.

After all these admonitions, may I wish you Happy Reading!

MEMBERSHIP UPDATE

by Jim Panks, Membership Secretary

At the A.G.M. in July it was proposed that the feasibility of rolling membership be studied by the Membership Secretary with a view to bringing it in before the P.C.W. Show in September 1982.

This study was finished in late August and it was decided by the committee that from the 1st September 1982 all new enrollments would run on a rolling membership basis.

This means that all new memberships will run for twelve months instead of a calendar year, and membership subscriptions will be due on the same date each year which will cut down on the amount of work required each January, when most of the members subscriptions are due.

Forms will be sent out with the December issue for members renewing in January 1983. Could I ask you to use these forms renew for renewal. This will help prevent the mistakes of the past.

At present there are two databases in operation, the old one will be transferred in the New Year as members rejoin. It is vital that members include their postcode and telephone number on the forms; this is to help send local mailings and get in touch with you quickly if any problems arise.

The membership subscription has been increased from the 7th September 1982 to £12.50, we regret this increase but have found it impossible to keep the club running without such an increase.

Members renewing in January, 1983, will have until the 31st January to remit subscriptions for 1983. After this date a new enrollment fee of £2.50 will be levied. It would be appreciated if members could start paying subscriptions in late December, to spread the load.

Membership Cards will be ready by December for all members for 1983. Some cards were produced, but they were considered unsuitable and new ones have to be designed.

The new database allows labels to be printed neatly and we have included information on the bottom.

The new labels look like this:

MR A.B.CLARKE
8 HOLIDAY HOMES,
ANYTOWN,
WILTSHIRE.
SA3 4RT.

SUBS 09-01-83 H/CORE 33 MEMB 1

The details at the bottom of the label are as follows :- SUBS 09-01-83(The date the next subscription is due month, day and year). H/CORE 33 (The last Hardcore you will receive i.e volumn 3, issue 3.). MEMB 1 (Your membership number).

This system of mailing will take place now for new members and in February 1983 for current members.

Chairman's Corner

by Norah Arnold

One factor contributing to the success of any organization is whether or not the people involved in the day to day running of the organization actually learn from their experience and try to improve every aspect of their performance as time passes. Just like many other organizations BASUG has its strong points and its weaknesses. I am sure that from time to time some members may have felt irritated by the occasional unanswered letter, non-arrival of Hard Core or some other similar happening. It is only fair therefore, that members should be made aware of all the efforts that are made, on their behalf, to improve the organization of the group.

During the last few weeks a great effort has been made to improve the accounting system. New procedures have been instituted, although it is far too early at present to make any judgement as to their effect. Thanks are due to John Martin, who has given freely of his time and expertise.

Our Membership Secretary, Jim Panks, seems to be a never-ending source of ideas. It is not unknown for him to arrive with several sheets of suggestions as to how the workings of BASUG can be improved. Keep the ideas coming, Jim, they are always welcome.

I should like to congratulate personally all those who braved the poor sign-posting and tortuous roads of Birmingham city centre in order to attend the meeting on September 25th. To the gentleman who suggested starting a local group I would like to say - go ahead, have a try, after all, nothing ventured, nothing gained. The worst that can happen is that you gain a few computer friends with whom to share problems, etc.

The next meeting of this kind will be held at Southall in a few weeks time. Bob Raikes will no doubt give more information about the meeting somewhere in this issue. Do come along if it is at all possible for you to attend. I am sure you won't regret it.

PERSONAL COMPUTER WORLD SHOW

9-12 September 1982

After the Earls Court Micro show, it might be a slight exaggeration to say that we were eagerly awaiting the PCW show. We were, however, looking forward to meeting members and prospective members from around the world.

The show took place for the first time in the Barbican Exhibition Centre and filled 4 different halls. The oppressively low ceilings and curiously austere staircases of the new venue drew many adverse comments and were explained by the discovery that the building was designed and built originally as a multi-storey car park!

In the course of Thursday and Friday we signed up a number of new members, and received many enquiries about membership mostly from business users and people professionally involved with Apples.

One minor problem was a damaged power supply on one of our machines. A visit to the stand marked APPLE UK revealed that Apple themselves were not present, and the stand was being run by a clutch of, to say the least unhelpful London dealers. A mercy dash to the SBD Software stand, however, produced a new power supply first thing next morning.

Saturday was a very busy day, long queues forming more than an hour before the start. Clive Sinclair has a lot to answer for! For the Saturday we had arranged a 'hospitality room' for members, some five minutes walk from the show. Here members could avail themselves of coffee and biscuits, or something stronger during lunchtime. These facilities, very kindly provided by MASS MICROS of Welwyn, were enjoyed by all those who used them. The idea will be developed for next year.

On Sunday we had another busy day. We had failed to have an Apple system available at the hospitality room on the Saturday. On Sunday the miscreant arrived with the cast-iron excuse that his mothers' sub-Post Office had that day been robbed by shotgun-toting thieves.

Visitors to the stand gave us the first reactions to the new mini-format Hardcore. The voting was about 20 for, 2 against.

We heard a cautionary tale from a new member on the Saturday. He had just bought his Apple II from a well known "store within a department store". He had apparently been assured by the salesman that only genuine Apple II disks worked in his new drive (at only £30 for 10 + VAT), and that without a fan his power supply would expire very quickly. We quickly signed him up, and sold him some BASUG disks.

Members manning the stand heard many inquiries about local groups. There is much scope here for those who are prepared to make the small commitment of time that this entails. One new member was even talking of forming a Malaysian Local Group. We also made contact with a number of other user groups, including the Big Apple User Group of New York. There was much hot gossip about Super Apples, 'rotten Apples' and other Apple topics.

Overall we signed up 44 new members, took about £800 in memberships and sales, and got the BASUG message across to many others.

Many thanks to all those who helped on the stand over the 4 days, and also to those who worked before and after in setting up and clearing up. The next big exhibition in the South is not until next June, we might have recovered by then !

Two main areas came through as the particular features of this show. The first of these was the interest in linking micros, whether by using Prestel or by using large systems as 'mail boxes'. Certainly the promoters of Micronet were working very hard.

The other area of interest was local groups. There seem to be more and more local micro groups some as Computertowns, and others not. Many of these have general meetings as well as sub-groups interested in particular machines.

By and large, this was a good show despite the crush and low ceilings, but one question remains -" At the biggest micro show in the world, where was Apple UK ?"

/The committee's thanks go to Bob Raikes who took four days precious annual holiday to organise the BASUG stand)

BIRMINGHAM WORKSHOP 25.9.82

Birmingham was the first of BASUG's one day workshops. People came from as far afield as Essex and Nottingham.

The format was based on the idea of two rooms - a systems room and a lecture room. In the systems room we had a number of machines going, despite the usual problems of forgotten leads etc. Here there was great interest in all things graphic, especially from the TRS80 group with whom we shared the accommodation (and costs). Olympic Decathlon was much admired by the TRS80 group, as their version is in lo-res only. Someone had Graforth, and the speed of the 3-D line graphics drew oohs and aahs. Meanwhile elsewhere, 2 afficionados of "The Wizard and Princess" were comparing notes. They promised to supply a map for those of us who couldn't get past the first stage.

In the morning John Sharp gave a talk on Prestel with particular reference to Telesoftware. Although we didn't have a phone line available, he had previously dumped many frames on to disk, and was able to give a realistic demonstration of the systems potential. This was obviously an area of great interest and practically everybody came to listen. Prestel has some obvious benefits to micro users, and British Telecom see micro owners as an obvious way of developing and expanding the market for Prestel. Because of this, we have access to virtually as many pages as we want, although John was quick to warn us of the amount of time involved in editing and creating pages. He also mentioned the new Micronet system which for a fee of approximately £50 per annum may provide a Prestel interface for your micro and access to much telesoftware. One of the current limitations of the system is the problem of errors caused by noisy B.T. lines, and this means that the maximum practical size of programs at present is quite small.

This took us up to lunchtime, meals and snacks being available from the college refectory.

After lunch Norah Arnold gave a talk on the Versawriter, a type of Graphics Tablet. She showed how very impressive pictures in many (107?) different colours were made possible, albeit with a considerable amount of time being necessary to achieve the very high standards that she sets herself. Examples of Norah's work can be seen on the covers of Hardcore volume 1, issues 4 and 6. Those who have seen demos of the various colour printers on the market are almost certain to have seen Norah's pictures of Kingfishers or hockey players. Suffice it to say that the true effect is best seen on a colour monitor. (The recent Apple mailing to members included Norah's picture of a bear eating a banana)

She then showed us the most recent software expansion pack which allows you to save a quarter of the hi-res screen into a buffer. This buffer can be manipulated in many ways including extracting one colour from the screen, rotating the image and compressing and expanding it. This system allows you to make abstract pictures composed of smaller pictures rotated, mirrored and then combined together. The software also allows you to select a small part of the screen and 'blow it up' to almost fill the screen. At the top of the screen is the normal size section, while most of the screen shows the same picture made up with large blocks. This allows the easy editing of pictures at the individual dot level.

After the talk, a number of the local BASUG members got together to discuss the formation of a new Birmingham or West Midlands local group, in order not to lose touch with each other.

Eventually the caretaker managed to get rid of us (only an hour after time) after a very useful and worthwhile day. We hope to repeat our visit in the new year. Next time there will be a map, I promise!

local groups

South London Group

The BASUG South London Group meets on the second Thusday of each month except August at Raynes Park Methodist Church, Worple Road. Entrance 2nd door up Tolverne Road. A hearty welcome is extended to all BASUG members in that catchment area and beyond. Next meetings, November 11 ("What do I do with my slots"), December 9, "Games").

Croydon Apple User Group

This group meets on the second Monday of the month. Call Paul Vernon on [illegible] (evenings) for details.

Herts Group

The BASUG Herts group meeting on November 2. Talk on the "BIT-STIK" given by Frank Kay.

L.A.U.G.H.S

LEICESTER APPLE USERS GROUP FOR HELP AND SUPPORT

NEWS NOTE

October:
"Interfacing with the Apple". Bring your queries to Ian and Clive.
"Just for Laughs". Continuing the club's 'BASIC' Accounts Program and Database with Bob and Dave.

November:
"Bit Stik", come and see this fascinating 3-D Graphics utility shown off by Mike Preston.

December:
A short AGM followed by a social evening. Why not bring the wife! Music will be supplied by a synthesizer attached to an Apple. There will also be a Bring and Buy stall available for members with items they wish to sell. It may be just what you want!
The Club Accounts will be presented by the Treasurer at the AGM.
(IF YOU WOULD LIKE TO BE NOMINATED FOR THE COMMITTEE OR IF YOU WOULD LIKE TO NOMINATE ANYONE PLEASE CONTACT THE CHAIRMAN NO LATER THAN THE NOVEMBER 3RD MEETING.)

January:
There will be no January meeting.

February:
"Hard Disks". An introduction to this alternative storage facility by Paul Turner and Graham Croome.
"Languages for the Apple". This meeting will comprise a short but informed discussion on the different languages which are available, headed by Clive Henson & Co.

March:
"Printers". Which and why and how printers interface with the Apple. Several speakers talk on the advantages and disadvantages of various printers.

Note:
If enough people are interest in a Machine Code corner this will be arranged. Please contact Mike Preston.

Meetings are on the first Wednesday of each month at the Winstanley Arms. Contact Hazel Bown on [illegible]

Kent's Own Branch !

It is often thought by those north of Watford that the South-East is so small that Apple owners can pop into London meetings at the drop of a hat !

This is not the case, and for that reason, a branch is beginning on the coast of Kent.

An idiot BASUG member, whose reason for buying a computer was to save time in his business (! !), suggested "his house" for a club rendezvous. Few 'appleholics" could refuse such an offer, especially when "his house" turns out to be a Public House specialising in Real Ale, food and of course Apple Juice!

So one of the newest branches meets at

The Watson's Cottage,
[illegible]
on the
second Tuesday
in the Month.

The editor of Hardcore, has asked for a run down of our activity. I only hessitate because a meeting can only be what the members make it, and not what the organiser plans.

It would possibly be helpful, for those who may be tempted to pop alog, to outline that which is readily available.....so here goes.....
In hardware,there is resident, as it were, Apple ii,double disk,Centronics printer and Apple iii,profile and printer plus of course what ever other systems are brought on the night.
In software there is the obligatory Visicalc, plus Omnis(iii), Corp, Pascal ii & iii, Business Basic ii & iii, Applewriter 1,11 & 111, & Go-betweeen to try out. Many games, projects, compilers etc.
The software I have bought was done so after trying it out on other peoples machines in my own good time and without a "sales rep" over my shoulder.
So if you are in Kent and feel like a trip to Margate come on down and share your experiences with someone else, you never know you might well learn something yourself !
Oh! By the way, I usually start around 2.30pm so come down for the afternoon as well if you feel like it. The Pub is open from 5.30pm to 11pm so suit yourself what time you arrive, see you then. JW.

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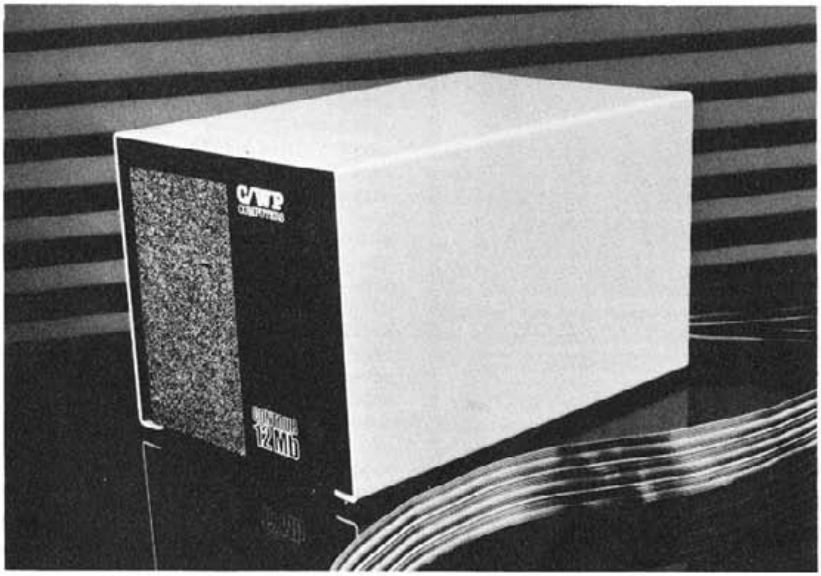

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APPLE GRAPHICS
AND
ARCADE GAME DESIGN

A Review by Norah Arnold

Apple Graphics and Arcade Game Design, written by Jeffrey Stanton, is published by The Book Company of Los Angeles. I bought my copy for twelve pounds fifty pence from SBD Software. The fact that I actually purchased the book at all is quite remarkable as I was initially most put off by the somewhat lurid (and sexist) cover design. No doubt it will appeal to men, as was the intention.

Beneath the cover, however, Jeffrey Stanton has made a serious attempt to bring together into one volume all the knowledge of Apple graphics that many of us will already have in the form of diverse magazine articles giving a useful tip here, or a handy little piece of code there. Locating the particular article you need at the precise moment that you need it can be quite a nuisance.

As the book attempts to present a comprehensive course in Apple graphics, it begins quite simply with a chapter on the use of high-resolution graphics from Applesoft. This starts with screen switches and control, problems of memory usage, the use of colours and page flipping to reduce flicker between animation frames. Apple shape tables are then covered thoroughly and an Applesoft shape creating program is listed. After discussing simple graphic animation using shape tables, the chapter ends with a look at character generators such as the Animatrix program in the Dos Tool Kit.

Because the book is aimed at increasing a programmer's skill, Chapter 2, on low-res graphics starts with an introductory section on assembly language. After describing low-res screen architecture and the plotting of dots and lines from assembly language, the reader's understanding is forced on rapidly, and the chapter ends with a listing of the assembled code for a 'Breakout' program.

Machine language access to Applesoft hi-res routines is the subject of Chapter 3. A table of the subroutines is given, with their ROM addresses and the information which should be input to registers etc. Code to animate an HPLOTed bird is given in both Applesoft and machine language, and finally the accessing of Apple shape tables from machine language is covered.

The next chapter deals with hi-res screen architecture in detail and goes some way to explaining why the designers made programming the hi-res screen as complicated as it is. What seemed entirely logical and economical in 1977 may seem unreasonable to us in 1982. Bit-mapped shape tables are considered thoroughly and the problems caused by using coloured bit-mapped shapes are explained clearly.

Chapter 5 is devoted entirely to bit-mapped graphics and starts by describing the 'table lookup' method of locating the starting address of any single line on the hi-res screen. Different methods of drawing and erasing the bit-mapped shape on the screen are discussed together with methods of handling the colour problems that arise when doing fine horizontal movements of the shape. Stanton favours shifting the shape horizontally two pixels at a time which reduces the number of shape tables needed for a particular shape from fourteen to seven. Selective drawing control and drawing movement advantages are discussed in relation to well known games such as Apple Invaders and Asteroids. The final section of the chapter shows how to interface the machine code drawing routines to an Applesoft program which uses the paddles to control the movement of the shape whilst saving the background.

Chapters 6 and 7 consider three major types of arcade games and the algorithms that make them work. Techniques for producing 'Invaders' type games where a movable firing mechanism in the horizontal plane defends against attackers approaching from above, 'Space War' and 'Asteroid' type games using fully dynamic spaceships and 'scrolling background' games such as Pegasus II and Phantoms Five, are discussed in detail. Paddle control, dropping bombs and shooting bullets, steerable and free floating space ships, collisions, explosions, score-keeping, page flipping etc. are dealt with in Chapter 6, while Chapter 7 deals with hi-res scrolling techniques, both vertical and horizontal.

Many pages of code for scrolling games are given.

The book ends with a discussion in Chapter 8 of what makes a good game. Difficulty levels, rewards, controllability and many other factors involved in game design are dealt with.

I think that this book is a valuable addition to the library of any Apple II owner who is interested in producing programs using high resolution graphics, not just to those people who wish to write arcade games. It is certainly useful to have so much material gathered together in one volume, and I must admit that it was only after reading this book that I understood why certain animation techniques that I had used in the past actually worked.

There is a great amount of code listed in the book and I certainly have not entered and tested it all as I only purchased the volume at the PCW show earlier this month, so I can make no judgement in respect to this. Purchasers of the book obtain an order form which they may use to buy a disk containing all the code listed in the book. The assembly language source code requires Big Mac, Ted II+ or Merlin, but could be reformatted for use on Lisa or the Dos Tool Kit assembler.

In the introduction Jeffrey Stanton states that he assumes no prior knowledge of Apple graphics on the part of the reader, and that the only requirements for this book are an inquisitive mind, perseverance and a good assembler. I can't help thinking that complete beginners would find themselves swamped by the wealth of information, but if you are already interested in hi-res graphics then this is a very handy book to have around.

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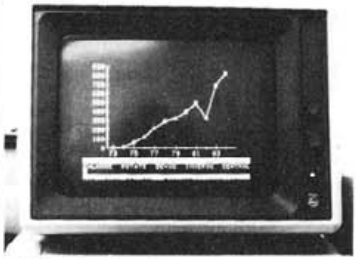

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Additional library disks are already available. Some of the routines included in this package (plus others not listed) are:

SWAP	Swaps TWO string or numeric values.
TEXT OUTPUT	Prints with no "word break" on screen.
STRING INPUT	Input any string, regardless of commas, etc.
ERR	Stack fix for Applesoft ONERR handling.
GOTO	Allows computed GOTO's. Example: GOTO 5*X.
GOSUB	Allows computed GOSUBs.
MOVE	Block memory move routine.
RESET HANDLER	Treats RESET with ONERR; or will RUN or reboot disk.
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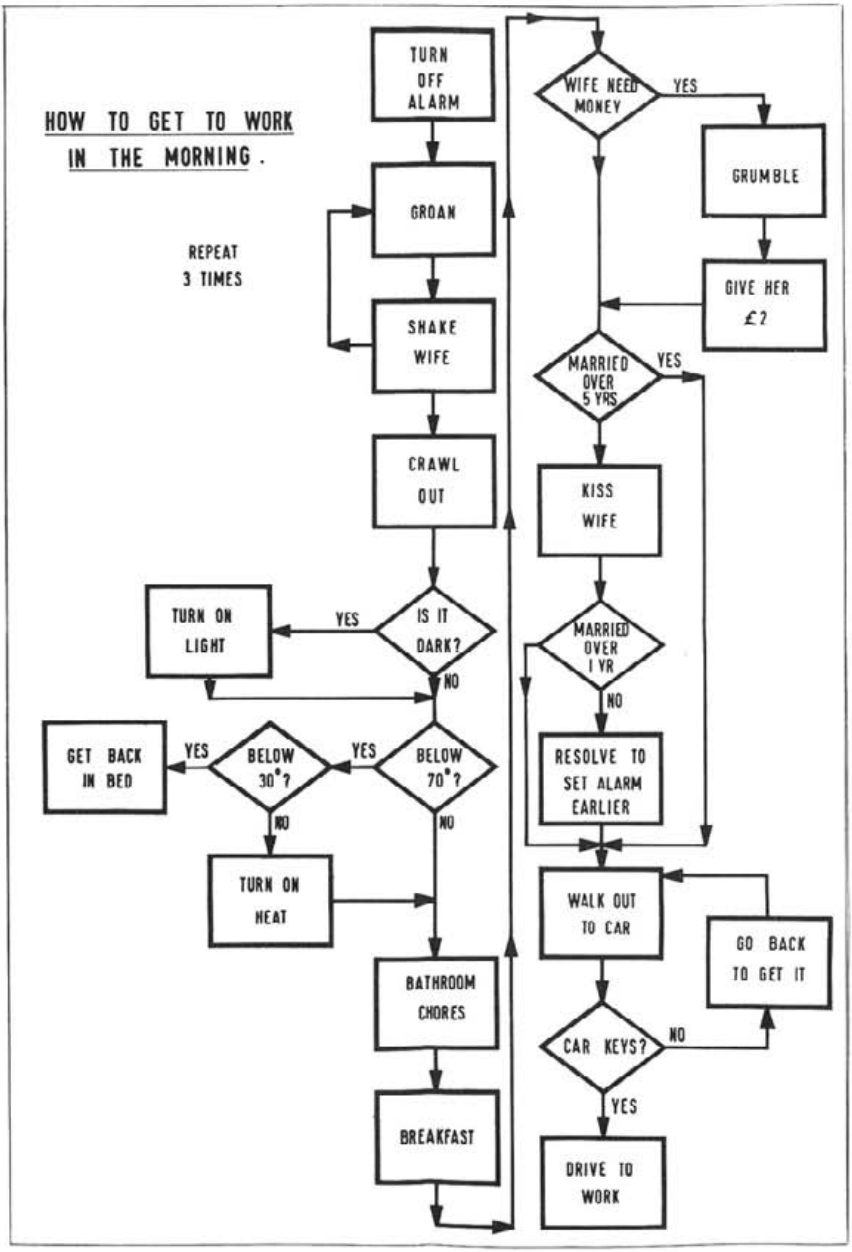
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TURN OFF ALARM
GROAN
SHAKE WIFE
CRAWL OUT
IS IT DARK?
YES
TURN ON LIGHT
NO
BELOW 70°?
YES
NO
BELOW 30°?
YES
GET BACK IN BED
NO
TURN ON HEAT
BATHROOM CHORES
BREAKFAST
WIFE NEED MONEY
YES
GRUMBLE
GIVE HER £7
MARRIED OVER 5 YRS
YES
KISS WIFE
MARRIED OVER 1 YR
NO
RESOLVE TO SET ALARM EARLIER
WALK OUT TO CAR
CAR KEYS?
NO
GO BACK TO GET IT
YES
DRIVE TO WORK

SOFTWARE LIBRARY BULLETIN

by John Rogers, Software Librarian

Many people have commented that they have no idea of how to run some of the programs in the Software Library, (or even of what they supposed to achieve !). We hope that a catalogue of notes on about one third of the programs in the library will be available when the next Hardcore comes out. The cost for the first issue has yet to be decided, but will be in the area of one pound. My thanks go to Ted Lepley and John Sanderson for the effort that they have invested in getting the bulk of the work done for the first issue. Work on another section of the library is now in progress, but a lot more work is involved, it's a bit like painting the Forth Bridge! I would be grateful if any members would be willing to take over, say, five disks to comment on, giving brief details on what the program does and how to set it in motion. Please give some indication of what type of program(s) you feel capable of looking at, and how many you could cope with in the space of, say, two months from receiving them (think of a time and multiply it by three).

There is no such thing as perfect bug-free software, the Software Library is no exception! Therefore if you find, and better still are able to stamp out a few bugs, please, please tell us!

For any help given to the Software Library, as above examples, suitable rewards will be given. Also, although new disks are added to the library fairly regularly, more original software would be gratefully received, again a fitting reward will be given. Many thanks for those that have contributed to the library - it would be a poor show without you !

Do not forget that it is YOUR library and we are open to any suggestions that would improve it. So please help me turn the library from just being a very good one into the best and to convert it from fogware into software (Fogware - undocumented software).

P.S. I know most of the software you give us has documentation, but that is rarely the case with our other sources.

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Handicapple

APPLE AND THE DISABLED

Conference on Technology and the Disabled Child

Back in 1981 BASUG went out to the Neath Hill Professional work- shop (of the Spastic Society) for a joint discussion on ways of mutual help. Despite lots of suggestions, little of substance followed - because of distractions of work and all the usual reasons. Quite a number of BASUG members are disabled sometimes to a great extent and we have been able to help in various individual ways. Roger Jefcoates, an independent advisor on electronic aids for disabled people (who spoke to us at that meeting) has now got in touch with us again to tell us about the Course on Technology and Disabled Children to be held Sunday October 31st to Friday 5th November at Castle Priory College, Wallingford, Oxfordshire OX10 OHE. Perhaps this copy of Hard Core will be in your hands in time for that event. The course looks set to becoming one of the most important events of its kind in the country, and people are coming from all over the world to attend. Although not specifically Apple or computer orientated there will be a preponderance of Apples in operation during the course since the Apple is the preferred micro for work with the handicapped.
Let me unashamedly lift a resume of the course from the information sheet put out by Castle Priory College.

"Technical aids are increasingly used to help disabled children gain greater independence in daily living, in education and recreation. New aids and equipment are becoming more accessible... These range from sophisticated electronic devices such as microcomputers, to simple toys and other aids made of wood, plastic, wire and other common materials...
This multi-disciplinary, intensive course covers a broad range of technical aids, equipment and techniques developed for physically and multiply handicapped children. It has a practical emphasis and there will be opportunity for discussion and to try equipment. We plan to have two exhibitions of aids, including a special display of microcomputers and four work-shop sessions, and course participants are themselves encouraged to contribute by bringing along photographs. This especially applies to the microcomputer workshop sessions where we hope to have a selection of microcomputers (primarily Apple machines with which our speakers are most familiar) but course parti-cipants are welcome to bring their own machines and especially the associated software (programs) to share. The course will be of interest to teachers, educational psychologists, educational advisers, physiotherapists, occupational therapists, paediatricians, community nurses, health visitors, social workers, toy library organizers, designers of equipment for handicapped people, rehabilitation engineers, and all who work with physically and multiply handicapped children.
A special feature is the link with the ACTIVE Autumn conference in London on Saturday, the 30th October."

Castle Priory College is an 18th Century country house with established gardens in the best English tradition. The Priory is on the banks of the Thames, a few miles from Oxford and is maintained by the Spastics Society of England and Wales. It is the only special purpose educational centre for professionals and non-professionals.

I can't give all the details about the course here, but can just add that the topics scheduled include Microcomputers in Special Education, Microcomputers and Mentally Handicapped Children, Microcomputer-based communication aids and much more of direct relevance to Apple users.
Cost: Tuition £64 Residence £76.
At this late stage (our publication date fell just too late) you might still be able to get a late booking by writing to Roger Jefcoates, Willowbrook, Swanbourne Road, Mursley, Bucks MK17 0JA. Or calling the college on Wallingford (0491) 37551. If you miss this year's course, you could apply for next year's course to be held at the same time October 30 to November 5, 1983. Note it now.

ALTERNATIVE COMMUNICATION SYSTEM PROJECT

The following message has been sent to us by Judy Mcdonald of the University of Washington, Seattle. Read on members who have something to contribute to helping the disabled.

The Alternative communication System Project is a federally funded research project working school aged children who have normal intelligence but who also have severe physical disabilities such that they cannot speak or write. Through use of the project-developed Morse-code based communication system, these children are able to communicate and to make use of standard computer programs for a variety of commercial personal computers.
Your group has come to my attention in the area of educational use of microcomputers. I would be most interested in receiving information related to (1) educational or pre-vocational software you have available for pre-school through high school level for any commercial personal computer; (2) evaluation or reviews of educational software; and (3) articles or references pertaining to use of computers by any group of school-aged children.

Sincerely, Judy McDonald

(Ed. Would members please write directly to
Judy Mcdonald, CD 393 WJ-10
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USA
and, if you like, send a copy to Hard Core, c/o our PO Box Number.)

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BASUG NOT IN SCHISM

BASUG members have been sent a beautifully produced glossy from Apple Inc. on "Apple and the Arts". On Page 37 they will have been alarmed to see Great Britain (BASUG) broken down into London and the South (PO Box 147) and "Midlands and the North" (Sheffield). We can authoritatively state that rumors of this schism within BASUG are figments of the overheated imagination of one lady in Apple (UK). One day, many months ago, this lady called up BASUG member Quentin Reidford to ask him whether he would act as a contact person for Apple users in the north. Certainly, replied Quentin, only too pleased to help. Whereupon he was immediately made the centre of a fictitious northern BASUG and his address printed in full. Quentin has asked me to inform you that he is indeed willing to act as a troubleshooter for fellow-members, to help getting started up with BASIC, etc; anything within reason. However, he is not an Anti-BASUG and has no plans to establish even a local BASUG group. Pity, but that is his privilege. Apple can get these things wrong with a dreary consistency and we can expect to see this fiction perpetuated in every Apple publication from now on.

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You are unlikely to find a comparable product at a price approaching £26

Apple Spiel IC does not perform on-screen formatting nor utilise 80-column cards or relocated DOS.
It requires a 48K Apple IC with Applesoft in ROM or language card and 1 disc drive.

R. N. Lomas, 19 Heron Crescent, Sydney, Crewe, CW1 1YB

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SELECTIVE CATALOG DOS PATCH

by DEREK TURNER

Many times when running programs that use files it is necessary to Catalog the disc whereupon the screen is filled with all sorts of file names even though all we wanted to do was look at the Text files or file names beginning with a certain letter.
This article describes a very simple patch that overcomes this problem but does not effect the Catalog in Immediate mode.

The patch breaks into the DOS code at $ADDD where it is just about to print the space or asterisk to indicate lock status of the file and instead jumps to one of the unused areas of the DOS to check whether a program is running and if so looks at the file type and prints or skips the file entry accordingly.
Testing to see whether a program is running is done by the DOS routine at $A65E. This returns with the carry flag set if the Apple is in direct mode regardless of type of BASIC. If a program is not running then the patch reloads the file type byte back into the accumulator and goes back to where it would have gone in the first place.

If a program is being executed then at $BCE8 the patch loads the file type byte and shifts it left to knock off the high bit which is the locked file flag. At $BCEC this is compared with £$00 for a text file or £$08 for a binary file. Instead if it is required to catalog only files beginning with a certain letter then $BCE8 becomes LDA $B4C9,X (i.e. looks one byte higher at the first filename byte) and this is tested against the required character at $BCED which you must shift left e.g. character T is hex $D4 which becomes $A8 for the comparison. Try that in Applewriter.

Now to make this patch permanent you must first get hold of an unaltered DOS 3.3 master and check that $ADDD lists as:

```
LDA $BCC8,X
BPL $ADE4
LDY £$AA
TYA
etc..
```

If it does match the next thing to do is load in the patch and try it out on a disc that is, shall we say, not too valuable.

If all is well then load the appropriate greeting program and put in a brand new disc and INIT with the appropriate filename.

MOVING DOS TO THE LANGUAGE CARD

by Vernon Quaintance

In the February Hardcore there was an article about the use of Applewriter with a Relocated DOS where mention was made of Cornelis Bongers' DOS MOVER routine, which appeared in CALL A.P.P.L.E., of July/August 1981.

As written, that program was for use with an Apple Language Card, and not a RAM card.

For most purposes it does not matter whether one has a Language Card or a RAM card but there is one significant difference between these two types of card.The Language Card has an Autostart Monitor ROM on board, whereas the RAM cards do not.This is important to the proper working of any program located on the RAM card that needs simultaneous access to the monitor ROM.DOS is just such a program.

Reading through a copy of Bongers' article, I quickly came to the conclusion that his Relocated DOS could not work on my Ramex RAM card, because of the large number of calls into the Monitor.When the RAM card is enabled for reading, the BASIC ROM's and the Monitor ROM are overlaid by the RAM on the card.Not having enough time to work on the problem myself, I sought the help of a fellow member of the Croydon Microcomputer Club, whom I knew to have Machine Code experience.Bob Houlston fairly quickly came up with a version of DOS MOVER which will run on Apples with RAM cards.

Bob's modified program, which is called DOSCARD, has been submitted to the BASUG library, together with the source code, written for the assembler in the DOS Toolkit.This is under the name REDOS(ANNOTATED).

There is only one point which must be noted when using DOSCARD, that is that after relocating DOS onto the language card it runs a program called HELLO.if your greetings program is not called HELLO then, unless there is another program of that name on the disk, a FILE NOT FOUND error message will be issued by DOS.

Neither Bob nor I have tested DOSCARD with an actual Language Card but there is no obvious reason why it should not work with one.The Monitor on the Motherboard would be used instead of the one on the Language Card.Perhaps readers would let us have their experiences of this useage.

zardax™

by Jim Panks.

Zardax is a word processor from Computer Solutions of Mount Gravatt, Australia. The version reviewed has been enhanced to accept Epson Printer commands. Zardax is compatible with most 80 column cards and it is recommended that one is used, although 40 column mode is supported, using the high-resolution screen to produce lower-case characters. A simple shift key modification is required before using Zardax; this consists of two pieces of wire running from the games I.O. socket to the keyboard. This modification then gives a true shift key, and makes the control key a shift lock key. A modification kit is supplied and fits all revision 7 and later motherboards.

The manual is of very high standard and is arranged to help the complete novice, gradually progressing until at the end of the manual routines to run printers are discussed. Like the Applewriter][manual no index is given. On the other hand a very detailed table of contents is given at the front of the manual.
Plenty of time is needed to read the 150 pages, and to take in the more complex side of Zardax.

The first boot of Zardax makes the user answer a few questions about the hardware present, then once the write-protect is put back on, the disk boots without going to the set up routine each time. I used a Videx Videoterm 80 column card, and an Epson MX80 FT/3 during my review and I found that both products behaved very well with Zardax. A few enhancements could be added by a competent programmer to access extra features supported by the new FT/3. There is one bug in the program, in that if you specify a width of 255 characters, when scrolling across the screen you lose the last character; this is very minor problem and most users would never use 255 characters in a line.

Zardax has two menus, the main menu and the editor menu, the main menu is that presented when you first boot up; this allows several options and automatically gives a catalog of files held on the disk. The main menu looks like this:

```
      Code  Document    Notes
303    A1   TITLE       MANUAL      11
OPTIONS    A2    CHAP 1              11
           A3    CHAP 2              23
Create     A4    CHAP 3              40
Print      A5    CHAP 4              34
Multipr    A6    CHAP 5              40
Videomulti
Retrieve
Transfer

Delete
Lock
Unlock

Glossary
Newdisk
Index
Exit

Which ?
```

The options are obtained by single keystrokes and are:

Create. Create deletes any file in memory and asks for the document name about to be entered, it then puts you into edit-mode.

Print. The print command retrieves a document already on the disk and prints any number of copies, starting from any page.

Multiprint. Multiprint retrieves a link file so that a chain of documents may be printed one after the other, this is used for very long documents.

Videomultiprint. Videomultiprint is the same as Multiprint except that the documents are presented on the screen, exactly as they would be printed.

Retrieve. This command clears the memory and retrieves the document called, it then places you in edit-mode.

Transfer. This is a very quick way to transfer documents between disks and is very useful.

Delete. A simple command for deleting documents from the disk.

Lock. Individual documents may be locked to prevent accidental change of deletion.

Unlock. This command is needed to unlock locked documents.

Glossary. Clears memory and retrieves a glossary already entered.

Newdisk. Formats a new disk for use with Zardax.

Index. Index prints out the complete catalog of documents to the printer.

Exit. Leaves the program.

The next menu is the inner or editor menu, this will be used more than the main menu, and it shares some of its facilities.
The inner menu looks like this:

Change
Draft
Main Menu
Print
Rename
Save
Videoprint

Document : Zardax Review 20-9-82

The above commands mean:

Change. This simply puts you back in the editor.

Draft. This gives you a draft copy of the document in memory and sends it to the printer.

Main Menu. Puts you back to the main menu, the escape key returns you to the iner menu.

Print. This prints as many copies as required of the document in memory, you can print from any page.

Rename. This enables you to rename a document and save it.

Save. Save the document in memory to disk.

Videoprint. This gives a formatted version of the text on the monitor, it is a great help in saving paper.

Pressing the escape key whilst in the editor sends you to the Inner Menu.

At the bottom of the screen the title of the present document in memory is displayed.

Cursor movement is very easy to learn and understand, all commands are control characters.

U - Up one line D - Down one line
L - Left one space R - Right one space
N - Up ten lines V - Down ten lines
B - Beginning E - End of text

M - Move paragraph up or down
F - Find and replace a word or phrase
I - Insert a disk document at cursor
P - (Put) Save the section above cursor to the first marker found.
X - (Mark) Marker used in Put and Wipeout
W - (Wipeout) Delete text (above,below or section up to Mark)

The right arrow deletes the character the cursor is on and moves one place to the right.
The left arrow deletes the character before the present one and moves one place to the left.

The cursor commands are easy to learn and a competent typist would be using Zardax within a few hours; naturally it would take longer to master all the advanced features of Zardax.

In addition to the above commands there are the tabbing commands and the glossary commands. They are simple to operate and work in the same manner as Applewriter][.

Special features enable subscript and superscript, underlining, footnotes, headers, and page numbering.

Zardax falls into two parts and formatting is done from within the actual text. This is achieved by using control zero followed by a sequence of letters and numbers, these formatting commands allow for very basic details and extend to very advanced commands, such as changing the pitch. The formatting commands supported are as follows:

LM = Left Margin RM = Right Margin
FL = Form Length PL = Page Length
CO = Continuous CS = Cut Sheets
PN = Page Numbers NN = No numbers
FO = Footer On FD = Footer Define
NF = No Footer HD = Header Define
HO = Header On NO = No Header

NP = New Page CP = Conditional Page
SK = Skip Lines MA = Margin (temp)
IN = Indent DS = Double Space
SS = Single Space SH = Space and a half
JU = Justify right margin
NJ = No Justify
TA = Tab across to position
CE = Centre short lines of text
NC = No centre - turn off CE
RL = Ragged left margin
RR = Ragged right margin
BF = Bold face printing
NB = Turn off bold face printing
DW = Double Width printing
SW = Single Width printing
EC = Enhanced Characters
NE = Turn off Enhanced Characters
SU = Shift Up - before superscript
SD = Shift Down - after superscript
PI = Pitch 10,12 or 15 c.p.i.
LS = Line Spacing 6 or 8 l.p.i.
ST = Stop Printing
RD = Red Ink BK = Black Ink

Z1 to Z7 programmable keys
Control zero is the command to specify the next two characters as a printer command.

Control * is for sending special control codes to the printer.

All the above commands depend on the printer used; they offer a comprehensive range and there are seven programmable keys that can be used to set the printer up.

Zardax works with Goodspell and is capable of working with Visicalc, Visidex, Mailmerge and other databases. This capability is useful if you need to put Visicalc forms onto reports or use a database to send letters.

Zardax in my opinion is a very user friendly program. I find that the only real disadvantages over Applewriter are that it does not allow a split screen, has no word processing language and has no tabulation marker. The enhancements I would like to see are:-

1. A tab ruler at the bottom of the screen.

2. The ability to split the screen, so that various pieces of text can be compared.

3. More information regarding the number of letters entered in the paragraph, and the total number of characters in the text.

Zardax scores over Applewriter by its neat way of loading files. I must admit that by using the 80 column card you get spoilt and wondered how on earth you ever used a text editor without one.

My thanks go to Mass Micros of Welwyn Garden City for the loan of Zardax and the Videoterm 80 Column Card and to Richard Zawadski for his help in setting it up.

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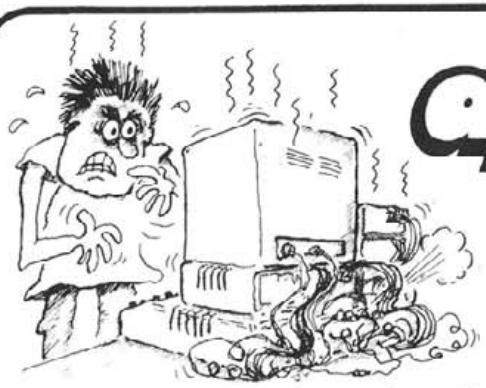

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MICKIE MICKIE MICKIE MICKIE MICKIE MICKIE

reviewed by Tony Williams

Mickie, let's get it straight from the outset, is no descendant of the famous mouse nor yet of that certain something which is perennially extracted, but stands for 'Medical Interviewing Computer'.
This package, for such it is, has enjoyed a mixed history. Its originator, the late Dr Christopher Evans, was the author of "The Mighty Micro" and "The Making of the Micro". The present version (kindly lent by BASUG member Joy Healey of Systemics Ltd), was first implemented on a SWTP micro (and still is). Mickie is a trademark of the National Physical Laboratory. The Apple version was made by Systemics in association with ABIES Informatics Ltd, the licensee to the Department of Industry for Mickie.
With such a pegigree it has to be good! Visions of teams of white-coated scientists poring over every inch of it in their clean rooms to ensure immaculate perfection!
But what exactly is it again?

Let's take it from the top.

> Originally developed for medical history-taking, Mickie has been evaluated in hospitals, clinics and general practice... The finished programs can be used easily by people who have never used or even seen a computer before. This is demonstrated by MICKIE's success with hospital patients (ill and apprehensive) who use Mickie without anyone else present, and enjoy it.

Ah, I think I see now.. It has something to do with medicine. But no, read on in the User Manual.

> Since then it has found widespread acceptance in education and industry. It saves time and provides comprehensive, legible and structured records.

Now we are getting a bit closer to it.

> Wherever questions and answers can be represented as a flowchart, Mickie can be used to speed up and simplify computerization; e.g.:
>
> Multiple choice tests and quizzes
> Medical history questionnaires
> Computer Aid Learning (CAL)

Mickie, then, was born in hospital but has since gone out into the wide world to seek his fortune.

This rather dotty opening reflects my initial uncertainty about Mickie's real identity. I wonder how many members of the uninitiated public will want to stump up the £50.00 for something whose ostensible purpose is so elusive. This could be a case where an acronym (MIC) serves to disguise rather than clarify a function. Sorry to be a bore, but wouldn't "Questionnaire-Maker" or "Pollster's Delight" keep the confusion to a minimum?

Now that is off my chest, I can take a closer look at 'Mickie'. The Apple version needs a 48k machine, at least one disk drive and, optionally, a printer. Systemics, I am glad to say, have opted to allow the user to take security copies, and I would judge that this will not depress their sales, since their customers are likely to be serious institutions not at all interested in obtaining pirated versions but greatly interested in using Systemics' back-up service (more of that later).

Instructions come on screen but also in the form of a useful 27-page clearly written booklet from which all the industry-standard misspellings and illiteracies are thankfully absent.

On booting up the user is asked to type in the day's date, which is printed out at various stages of the system, and then the Option Menu is displayed.

Like other authoring systems, Mickie essentially consists of four blocks, - Make it, Run it, Change it, Print it (though these are not the names used).

The first question to ask is how far does it live up to its claim to be usable by those with no knowledge of computing, indeed by those laid up in hospital beds? Patients can and do use it with few reported problems so in that sense it is certainly 'user friendly'.

One nice feature derives from close observation of the behaviour of real users in the interactive situation, who may be startled, for example, by the very speed at which words flash up on the screen. To reassure such people the 'interviewer' can slow down the screen output (from 255 down to 100) and a 'conversational' speed of 150 is recommended. This encourages me to believe from the start that the authors know one or two real people.
However, a cursory glance at the list of contents will show that the 'naive' user, i.e. the questionnaire designer will not be able to sail into the system with little or no study of the way the computer works. Any system which offers 'Standard Branching... Default Branching', 'Entering DOS commands', Conditional and Qualified Summary Items' and its own 'Questext Language', however simple that might be, will require that operators spend rather more than a half-hour familiarization session. That should not be held against the system. Any software of value has the right to insist that the user set aside a preliminary session of a day or two to study the manual. Experienced Applewriter I users cannot, for instance, graduate to the II without some hours' intensive practice (and some have been known to shrink back in horror at the prospect!) By definition this will fail to satisfy the impatient reviewer who wishes to get to grips with the essentials of a package and put it through its paces after only a fleeting glance at the first page of the manual. The package is designed to assist devising questionnaires which in any form - on paper, on screen or on cassette - demand patience, meticulousness and a firm grasp of what you actually want to achieve.

Partly in recognition of the inherent difficulty of design, Systemics offers to design and write questionnaires for busy users, as well as offering 'post-processing facilities to produce basic statistical information from response files'. This seems to me a vital service for the serious institutional user who wishes to make use of these facilities but has many, even more vital calls on his time. From my own long, long days in audience research work I know that great chunks of time had to be set aside for the petty detailed work of questionnaire design - one questionnaire after another - keeping me away from the legwork I preferred. If only we could have mailed our questionnaire requirements to Systemics, saying "Do it, do it, don't bother us with the details and come back when it is complete!" Whether Systemics would have been man enough for very heavy statistical analysis of responses is another matter, but I would certainly have loved to give it a whirl.

Instead of simulating a real application I turned to Dr Jason Taylor, a psychiatrist at the Royal Free Hospital, who is a regular user of Mickie. He uses it - guess what - for taking medical records! The situation is this: in a typical afternoon surgery session one or two patients will be introduced to the Apple, and asked to fill in a multiple choice questionnaire about themselves and their problems. (No, this is not Eliza - this application of Mickie just listens and does not come up with canned diagnosis). Most patients respond favorably to this procedure, can cope with the technical requirements satisfactorily and on the whole value the application of modern technology to their individual problems. Only those patients that are very disturbed in any case produce a hostile reaction to the machine. Since the pace in psychiatric clinics is not so hectic as, say, in a casualty ward, the patients are given enough time to familiarise themselves with the machine and with what is asked of them without feeling rushed.
The type of questioning sequence quoted in the manual (not that used by Dr Taylor) is like this:

```
1/2/3
DO YOU GET THE PAIN EVERY DAY
*DAILY PAIN -
2/4/4
IS IT CONTINUOUS
*CONTINUOUS*NOT CONTINUOUS
*
3/4/4
DO YOU GET THE PAIN MORE THAN ONCE A
WEEK
*PAIN>ONCE A WEEK*PAIN<ONCE A WEEK
*
4...
```

This passage gives a flavour of what Mickie can do and of the very simple QUESTEXT language which makes use of little more than asterisks, a few letters, slashes and numbers. Not at all onerous to master. One of the functions of the asterisks above, without going into too much detail, is to store the

responses of the patient (student or whoever) to disk for later appraisal.
A key feature of Mickie is its "Conditional Branching" which comes into effect, for example, when a patient is asked his or her sex. If the answer is MALE, any further question sequences relating to pregnancy can be intercepted and shut out (if it occurs to the designer of the questionnaire).

Another example:

```
1/2/3
Are you feeling well
*
2///4
I am glad to hear that
*
3///4
I'm sorry you don't feel too good
*
4/5/6
Tell me a few details about your
health
```

If the user answers YES to block 1 the text in block 2 will be displayed, followed immediately by a branch to block 4. Etc.

Returning to Dr Taylor, when they indicate that they are happy with their answers his patients are asked to wait the short time that it takes him to evaluate the printout. Then they are called in and the consultations begin, with the evaluation forming one of the psychiatrist's inputs.
Dr Taylor describes Mickie as a useful adjunct to his practice but adds that for his part he cannot quite envisage it being used for Computer Assisted Learning applications. Because it is geared to multiple choice answer techniques, it is not really suitable for conveying verbal information in any quantity.
Extracts taken from the sample questionnaire provided by Systemics illustrate how Mickie is conceived for CAL applications:

```
FILE: THE WORLD TESTTO ON: 03/07/82

QUESTION 2

Which of these is the longest river?

1. Amazon
2. Mississippi
3. Nile
4. Don't know
*@Amazon*@Mississippi*@Nile*@Don't
know
*
14///16
No - I'm sorry that's not right
*
15///16
Yes - you're correct
*16///
The Nile is the longest river - over
4100 miles in fact. The Amazon in
South America (the Nile is in
Africa) is 3900 miles long while the
Mississippi in North America is 140
miles shorter.
```

CAL has come some way since this type of exchange was devised, for the most part reflecting the restrictions imposed by mainframe computers. The use of positive and negative reinforcement comments is welcome, but the reliance on multiple choice inputs is unacceptably inflexible. The advent of the micro has made possible a much freer and less constrained interaction between courseware writer and student but this is not evident in Mickie whose CAL thinking is firmly anchored somewhere in the late 60's. This type of CAL material is pedagogically unsound in that it encourages a points scoring attitude to learning. It is conceivable for a student to get through a program of this kind simply by pressing the accepted keys at random and emerge with a respectable score. Seventy five percent success in academic eyes is good, but in real life it is hopeless. What programmer could accept seventy five percent success in his program? (Don't answer that! I know one or two myself! And stand up that man who said programming is not real life!)
On the other hand, (I'm beginning to think it over), seen in the light of EDQUEST's package for the BBC machine (selling at £25.00) which is dedicated to multiple choice questions alone (see also Aristotle's Apple) we should welcome Mickie which throws in this facility at no extra cost.
Despite this there are educational areas in which Mickie is unsurpassed. You do not need to be a mental gymnast to see that such a questionnaire writing aid can be of enormous assistance in any self-administered interviewing situation where a pattern can be established. One obvious teaching role I could suggest would be in teaching the essential but much neglected art of form and application filling. Judicious use of Mickie, for instance, could gently lead school-leavers through the thickets of bureaucratic job-application forms, and, dare I say it, help them complete their first dole applications. If the Manpower Services Commission is not looking at

Mickie, it ought to be, since part of its brief is to prepare people for the realities of job applications, often doomed by dint of infelicitous completion. Mickie stands or falls on its use of branching - and again you need not be a mental Nelly Kim to see that such an interactive program could be made a more appropriate vehicle for careers advice than a conventional data base.

Let me turn to another area of possible application. When I saunter over to the local Ford showroom to stroke the Sierra and pretend to be a potential customer - I do little else - I see a Sharp MZ80K flickering in a corner ready to produce all the information I need at the press of a key, narrowing down the choice according to my responses. Good idea. Apples do it too, and Mickie would be the ideal package. So there you are, programmers, when you are called in by your high street trader for a piece of interactive customer or salesman operated software, you could start from first principles. On the other hand, you could just buy Mickie off the shelf, configure it to your client's specifications and pretend you wrote it...Shhhh. I didn't say that!

This first glance at Mickie cannot hope to do it full justice, since that would require extensive field trials beyond the capacity of this reviewer. We would be interested to hear of any other users who can write in and tell us about their application in more detail.

With certain reservations (the introductory menus are not as friendly to the questionnaire designer new to the Apple as the publicity would have us believe; the package does include an on-screen demonstration questionnaire to give us a quick idea of how it works - it is disguised as "Test" and the 'demonstration' option means something quite different) this package of dedicated software is an invaluable low cost tool any training establishment, school, government or public institution.

"Computers are less intelligent than human beings but more intelligent than programmers"

Medical Special Interest Group

Alik Elithorn has telephoned in his report:

The Medical SIG is sprouting and numbers now about thirty members scattered about the country, so meetings can only be infrequent. Nevertheless we have a program of activities stretching into the New Year. A meeting is set for Newcastle some time in 1983 but it is still in the planning stage so there are no details as yet. All SIG participants are full BASUG members but again plans are being mooted to establish some kind of associate status. The next meeting to report is at the Department of Psychological Medicine, Royal Free Hospital, London NW3 2QG at 4.30 p.m. At this meeting Drs John Dawson and Gordon Jameson will give a review of various Word Processing packages - with no specific emphasis on medical applications. Would all those interested contact me on 01-794 0500. That's Nov 18. Following on the highly successful medical conference in January, 1982, another Apple Medical Forum is to be held on December 17th (10 a.m. to 5 p.m) at the Middlesex Hospital Medical School. This conference is for all those interested in the use of Apples in medical applications to meet, learn and discuss what is going on in the medical world. Cost of participation is £18.00 including lunch, and overnight accommodation is available at £10.00. Those interested should contact Dr Jameson at the Physics Department, Middlesex Hospital Medical School, Cleveland St, London W1P 6DB. This conference is being organized by Dr Jameson in association with Apple.
For the benefit of country members and potential recruits who cannot get in so often , the Medical Forum is followed by a BASUG Medical SIG meeting at 5.30, same address. This will discuss future activities.
Looking forward to seeing you there.

Has your special interest group been left out? If so, next time around let us know in good time what you are up to.

Pippin's Page ~~~~

Edited for younger readers by Vernon Quaintance

Welcome to another Pippin's Page.I would welcome your letters saying how useful you find this page, and what changes, if any, you would like to see here. Your programs would also be welcomed. You can write to Pippin's Page c/o P.O Box 174, Watford, WD2 6NF.

In the last Hardcore but one we saw how to use the GOTO command to cause a program to run indefinitely. At some time, however, we will want to stop the program from running. One way is to switch off - but this loses the program. Another would be to use the RESET key; this will be OK if you have an Apple I° Plus, but not with an Apple I°.

There is another way to stop a program without risk of it being lost. Enter a program with a GOTO placed at the end to cause it to keep on running.Now RUN the program.

Next press the key marked CTRL and hold it down whilst pressing the letter 'c'. Has the program stopped? Has the | symbol and the flashing cursor appeared? If not, you may have stopped at an INPUT statement. Press the RETURN key. The | and cursor should now be on the screen.

Notice that the program will not stop on CTRL-C alone if it is waiting for an INPUT. It will then also need a RETURN, at any other point in the program a CTRL-C alone will stop it.

Supposing now that we wish to control the number of times that a program repeats itself. We will need some means of counting the number of repeats and also of testing to see if this is the required number.

Type in the following program: (Don't forget the NEW first)

```
10 REM LINES GENERATOR
20 TEXT : HOME
30 INPUT "HOW MANY LINES ARE TO BE
WRITTEN? "; N
40 HOME
50 PRINT "I MUST PAY ATTENTION IN CLASS"
60 LET COUNT = COUNT + 1
70 IF COUNT < N THEN GOTO 50
80 END
```

Now RUN it, choose a small number of lines to start with (say 5). Your 'lines' should have been printed on an otherwise blank screen. Did you get the right number of them?

The two new ideas in this program occur in lines 60 and 70. Line 60 should be read as "let count become count plus one". That is, take the present value of the variable COUNT and add one to it, then store this new value in the variable COUNT. Line 70 performs a test to find out if the value of COUNT is less than the value of N. All the time that COUNT is less than N, the program loops back to line 50. Let us assume that you asked for ten lines, therefore N = 10. As soon as COUNT reaches 10 (which is after 10 lines have been written) then the test is no longer true (COUNT is not less than N) and the program does not loop back but carries on to line 80 where it ends.
You should note that when you RUN a program, the value of all numeric variables is set to 0. COUNT did not become 1 until after we had written the first 'line'.
Let us now change the program slightly. Re-type lines 70 and 80 to read:-

```
70 IF COUNT = N THEN END
80 GOTO 50
```

Now RUN this program. It should do exactly the same as the previous one. Depending upon exactly what we want to do, we can test for greater than (>), less than (<), equal to (=), less than or equal to (<=), greater than or equal to (>=), or not equal to (<>). Try writing some simple programs of your own using each of these comparisons, see how you can change the program to do the same job with a different comparison.

I expect most of you have Applesoft or Palsoft BASIC. In these articles I will use the name Applesoft to mean both Applesoft itself and also Palsoft. I will only mention Palsoft specifically if I know it to be different.

If you have Applesoft then try this program:-

```
10 TEXT : HOME
20 PRINT N
30 N = N + 1
40 IF N <> 11 THEN PRINT ", " : GOTO 20
50 END
```

When you RUN this program you should find that it prints the numbers from 0 to 10 in a line, separated by a comma and a space. There will be no comma after the 10 though. You will see that the program tests to find out if N is not equal to 11. Whilst this is so it will do two things (a) it will print a comma and a space, (b) it will loop back to line 20. In fact, every command which follows the THEN in line 40 will be obeyed if,

and only if, the test is true. As soon as the test is not true then none of the remaining commands in that line will be obeyed.

If you have Integer BASIC and try this program you will see a distinct difference. The program will loop indef initely and continue writing numbers to the screen until you stop it with CTRL-C. There will be a comma and a space after all the numbers except the 10 (which is when N = 11). With Integer BASIC only the command immediately following the THEN depends on the test. All other commands in the line will be obeyed anyway.

In some versions of BASIC (as used on other computers or with the Softcard) you can write a line like:

```
90 IF N = 15 THEN PRINT : PRINT "RUN FINISHED" ELSE GOTO 20
```

Note the new command ELSE used here. If the test is true then all that is between the THEN and the ELSE will be obeyed. If the test is not true then only what follows the ELSE will be obeyed.

Next time we will learn how to control looping in another way, which is the one we will then normally want to use.

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Beginners' Pages

by John Sharp

An Array is a filing cabinet. You put and take variables or strings in them but you cannot mix the two (except in a spiral way, see later).

Indexed - so you can find easily; provided they are put in a logical manner as with any other filing system.

Let us first look at a single dimension array:

```
10 FOR N = 1 TO 10
20 LET A$(N) = CHR$ (64+N)
30 NEXT
40 INPUT "WHICH VALUE TO LOOK AT" R
50 ? "THE LETTER IN POSITION 'R' IS" A$(R)
```

Now sometimes we need a cross index table e.g.

Name, telephone number:-

```
10 FOR N= 1 TO 10
20 INPUT "NAME"; N$(N)
30 INPUT TEL NUMBER; T$(N)
40 NEXT N
```

Instead of two separate arrays, we can combine them into a two dimensional array.

```
10 FOR N = 1 TO 10
20 INPUT NAME; P$ (1,N)
30 INPUT TEL NUMBER; P$(2,N)
40 NEXT N
```

So we use the first number in the array to put us in the right column, then go down it.e.g. we would have the following table

```
P$ (1,1)  P$ (2,1)
  1,2       2,2
  1,3       2,3
etc.
```

Like any table it can be turned about:-

```
P$ (2,1)  P$ (2,2)  P$ (2,3)
P$ (1,1)  P$ (1,2)  P$ (1,3)
```

or even

```
P$ (2,10)  P$ (2,9)  P$ (2,8)
P$ (1,1)   P$ (1,2)  P$ (1,3)
```

Why because that is the formatting of it on the page and is only my manipulation. DO NOT do that, keep it simple.
For this reason you must be careful to document your program and be logical about your setting up. Now I have missed out

0,0 1,0 2,0
0,1 1,1
0,2 1,2
... 1,3

To clarify Dimensions of Array and setting up the size. The array P$ (K,L) is a two dimensional array, having (K+1) boxes in one direction and (L+1) in the other. Where has the extra 1 come from? Well there is always a zerio for P$(K,L), it is

. 0
0 K

. L etc.

These zero areas are useful to put titles in e.g.

P$ (1,0) = "NAME"
P$ (2,0) = "TEL. NO."

I tend to keep a set method so that: P$ (K,L). I move areas with K (giving me the colomns) then down with the M so I keep track.

In fact because of the zeros we only need to keep the above telephone numbers and names down to P$ (1,10) for 10 names and telephone numbers (still keeping the zero in the second location for headings)

P$ (0,N) = with name
P$ (1,N) = with telephone number

Keeping a tab is even more important for higher dimension arrays. NOTE

Name Telephone Number Town
P$(0,N) P$(1,N) P$(2,N)

is still two dimensional because it is still a table.

Now three dimensions are a similar set of boxes but arranged not as one table but as a set of tables. Let us start with our 2D table of names and telephone numbers:

P$ (K,L) L as before is either 0,1,2

1 is now name, 2 telephone number, 0 is a label as follows for chairman, treasurer, secretary of a club.

Build up a 2D table

0 title	name	telephone
1 chairman	X	222
2 treasurer	Y	257
3 secretary	Z	663

L M

This is a table for Yorkshire.

Separate tables for each county builds up into a cube.

Thus P$ (K,L,M)

	1	2	3
K	name	telephone	-
L	Chairman	Treasurer	Secretary
M	Yorkshire	Lancashire	Nottinghamshire

To find the treasurer's name for the Nottinghamshire county, we access P$(1,2,3).

Thus we can have, another table as a glue of the 'tube'.

All the treasurer's names and telephone numbers across by setting K=2

2D array (K,2,M) is a 2D array (L is fixed) varying K gives name or telephone number, varying M gives county.

Now for the problem of accessing numbers in relation to strings. It is often far easier to keep data all in one table - rather than have two separate arrays - a numerical and a string array. This can be accomplished by putting the number in as a string and using the valuation function to turn it back (as a calculation use STR$). BUT this wastes space - up to 255 is 1 byte as a number but 3 is a string.

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EPSON PRINTER PAGES

by Quentin Reidford

First I wish to thank Hedley Wright for writing to me on the tabbing problem I mentioned in my last article. As Hedley pointed out in his letter, printed in the last issue of 'HARDCORE', it is necessary to use a SPC(n) insruction to successfully tab on virtually all printers. However an acceptable printer instruction is POKE 36,n, where n is the desired column number, first column is (0) not (1). If you use this method it is essential that you kill the screen with a POKE 1656+SLOT No,n, where n is whatever number you fancy to allow all your text on the line. Reset with POKE 1656+Slot,40. If you don't do this (I didn't) you will find that you will probably have corrupted your program.

As a result of foolishly mentioning bit-image printing last time, I have been asked to try and explain how it works.....Thankfully, Mike Glover of Leicester Computer Centre has come to my rescue with a short code which makes the input easier.

First of all, bit-image graphics are formed by addressing each pin in the print-head and instructing it either to fire or not. There is therefore a simple binary instruction for this, either fire (1), or not (0). Although the print-head has nine pins, only eight are used for bit-image graphics, the lower pin is not used. Reading the EPSON manual you find out about the binary relationship, (1) fire, (0) don't. Consider the print-head below and assume that you want to fire the bottom two pins, (i.e. Nos 2 & 3 in diagram below).

```
PIN 9   * =0 (no)
PIN 8   * =0 (no)
PIN 7   * =0 (no)
PIN 6   * =0 (no)
PIN 5   * =0 (no)
PIN 4   * =0 (no)
PIN 3   * =1 (fire)
PIN 2   * =1 (fire)
PIN 0 NOT USED FOR GRAPHICS
```

This gives a binary number of 00000011 or 3

If all pins in the row were to be fired it would give a binary number of 11111111 or 255.

Thankfully there is an easier way of figuring what the code for each columns firing requirements are; again the print-head

```
PIN 9   * =128
PIN 8   * = 64
PIN 7   * = 32
PIN 6   * = 16
PIN 5   * =  8
PIN 4   * =  4
PIN 3   * =  2
PIN 2   * =  1
PIN 1  NOT USED FOR GRAPHICS
```

Therefore if you want to fire the bottom two pins the desired code is 1+2 =3 as before.

If pins 2,3,4 and 8 were to be fired the code would be 1+2+4+64 =71.

Now you face the absorbing task of working out which pins you want to fire to create your image ! I found that the EPSON provided an easy way of creating a printed grid eight boxes high and as many boxes wide as feasible for the screen. Assuming you will have a design more than eight dots deep, each eight dot row must be worked out separately.....it doesn't get any better !

Once that part is over you will have a sequence of numbers that represent the firing order of the pins in each eight dot row. Now they have to be printed..The EPSON INTERFACE MANUAL on page 12 gives a method of data transfer which allows your code to be entered with the USR() prefix. This works all right but the manual only shows one eight dot row and explains very little. If you wish you can enter the example in the manual for ONE row of your data, but in LINE 230 you must substitute the USR (8) with USR(n) where n is the number of horizontal dots your design covers.

The data for the design has to be entered through some type of transfer medium to prevent CHR$(7) ringing bells and other codes which the Apple recognises, generally causing havoc.....

As I mentioned Mike Glover has kindly sent a short machine code routine which can be poked in at the beginning of the program (see listing 1). This gives a far more elegant solution than the EPSON variety, and allows simple use of DATA statements. The syntax is simply CALL 768, CODE, either in the form CALL 768,27; CALL 768,75 ; or, CALL 768,27,75.

Lucky owners of the latest LCC PROM 8132 can simply CALL 49574 instead of CALL 768 and avoid poking in the data transfer routine.Whichever method you use you have to start up the printer <PR£1>, and issue the command to print a bit-image. This is done by issuing the following commands :

```
PRINT CHR$(27); (ESC)
    CHR$(75); (bit-image code)
          (see manual    )
          (appendix 6    )
    CHR$(num);(set to the No.)
          (of columns of )
          (your design-up)
          (to a max. 256 )
    CHR$(num);(set as a mod. )
          (of 256 for    )
          (cols, greater )
          (than 256      )
```

Example: PRINT CHR$(27);CHR$(75);CHR$(50);CHR$(0) would print 50 columns of bit-image data in a row. The CHR$(0) means that the column does not exceed 256. If it did (good luck!) then the third number in the sequence could not be above 256; therefore if, say, 300 columns were required, the third number would be (300-256) = 44 and the last

number in this sequence would be (1), representing the first 256 columns. The complete code for 300 columns is PRINT CHR$(27);CHR$(75);CHR$(44);CHR$(1);....
Now you add your data for the first eight dot row, and all being well it will print.
However, since you will probably have more than one eight dot row, and doing a normal line-feed will leave a big gap in it, we therefore need another set of instructions to issue a line feed of specific size. The answer to this is again found in the INTERFACE MANUAL Page 8, VARIABLE LINE-SPACING. Code 65 from appendix 6 will work nicely by dropping the line-feed in increments of 72nds. of an inch. I have found (8) to be about right and the complete code is as follows;

```
PRINT CHR$(27); (ESC)
    CHR$(65); (code for incrementing)
          (line spacing      )
    CHR$(8); (No. of 72 nds incr. )
    CHR$(10); (code for line-feed  )
```

Having executed this instruction the printer needs to be told to return to the bit-image mode again, so just repeat the first series of instructions. Continue with this sequence of instructions until all your data has been entered. Once this is complete you should add the following;

```
PRINT CHR$(27);CHR$(50)
 <this will reset>
 <line spacing to>
 <default value  >
PRINT CHR$(10);CHR$(10)
 <this just issues>
 <two 1/feeds    >
```

I have included two listings to illustrate the general theory, one is fairly well documented, and the other illustrates dual-density bit-image printing. If you wish to convert the second program to single density, make the following changes ;
In line 300 in demo. 2 :
Data 76 becomes 75 (s/density code)
Data 36 becomes 18 (1/2 the points)
In line 200 change 130 to 76.
In lines 310,340 and 370 remove every OTHER data statement.

Hopefully this article will clear up some points (!) on bit-image printing and inspire you to send in some exciting pictures. The next most obvious routine would be a friendly editor along the lines of the Apple Tool-Kit ANIMATRIX to simplify all this hard work...any volunteers ??
Finally I would be interested to hear for those of you with the PRINTMASTER card whether you manage bit-image printing, because although the model that I have tried is splendid for graphics dumps, I could not persuade it to respond to any bit-image printing at all.

```
100  REM  ************************
101  REM  ** BIT-IMAGE DEMO £1 **
102  REM  ** BY Q. REIDFORD     **
103  REM  ************************
104 :
120  REM  ************************
121  REM  **   DATA TRANSFER    **
122  REM  **      ROUTINE       **
123  REM  ** (C) MIKE GLOVER    **
124  REM  ************************
130  FOR LOC = 768 TO 790: READ NUM
140  POKE LOC,NUM
150  NEXT
152  REM  ************************
153  REM  ** DATA FOR LOC. $300 **
155  REM  ************************
159  REM * POKES DATA *
160  DATA 32,183,0,240,16,32,190,22
     2,32,248,230,44,193,193,48,251
     ,142,144,192,16,235,96,0
195  REM  ************************
196  REM  ** DRAWING ROUTINE    **
197  REM  ************************
198 :
199 :
200  FOR I = 1 TO 50: READ N
210  CALL 768,N
220  NEXT I
240 :
250  REM  ************************
251  REM  **  BIT-IMAGE DATA    **
252  REM  **       FOLLOWS      **
253  REM  ************************
270 :
285 :
290  REM  ************************
291  REM  ** SET BIT-IMAGE MODE**
292  REM  ** 27=ESC : 75=MODE   **
293  REM  ** 17= NO OF DOTS PER**
294  REM  **-LINE : 0=MULT.PLE  **
295  REM  ** OF 255 FOR LINES>  **
296  REM  ** 255 DOTS LONG      **
297  REM  ************************
298 :
299 :
300  DATA      27,75,17,0
306  REM  ************************
307  REM  ** DATA GIVE PIN NOS.**
308  REM  ** IN SEQUENCE FIRING**
309  REM  ************************
310  DATA 1,1,3,7,15,31,63,127,255,
     127,63,31,15,7,3,1,1
312  REM  ************************
313  REM  ** DROP L/F BY ONE    **
314  REM  ** PIN (OR BIT?)      **
315  REM  ** 27=ESC : 65=MODE   **
316  REM  ** 8=NO OF 72NDS DROP**
317  REM  ** 10=L/F CODE        **
318  REM  ************************
319 :
320  DATA 27,65,8,10
321  REM  ************************
322  REM  ** SET BIT-IMAGE MODE**
323  REM  ************************
```

```
324 :
325  DATA 27,75,17,0
330  REM  ************************
332  REM  **PIN FIRING SEQUENCE**
335  REM  ************************
340 :
345  DATA   128,128,192,224,240,248
     ,252,254,255,    254,252,248,2
     40,224,192,128,128
360 :
370  REM  ************************
371  REM  ** TWO L/FEED CODE 10**
372  REM  ************************
379 :
380  DATA 10,10
382  REM  ************************
384  REM  ** THIS RESTORES LINE**
385  REM  ** TO NORMAL ..... **
386  REM  ** AVOIDING RE-RUN  **
387  REM  ** PROBLEMS :ESC+'2' **
388  REM  ************************
389 :
390  DATA 27,50


100  REM ** BIT-IMAGE DEMO £2**
120  REM **DATA TRANSFER SUBR**
130  FOR LOC = 768 TO 790: READ NUM

140  POKE LOC,NUM
150  NEXT
154 :
155 :
159  REM * POKES DATA *
160  DATA 32,183,0,240,16,32,190,22
     2,32,248,230,44,193,193,48,251
     ,142,144,192,16,235,96,0
198 :
199 :
200  FOR I = 1 TO 130: READ N
210  CALL 768,N
220  NEXT I
240 :
250  REM  ** BIT IMAGE DATA**
251  REM  ** FOLLOWS       **
270 :
285 :
298  REM  * SET BIT-  *
299  REM  * IMAGE MODE*
300  DATA     27,76,36,0
305 :
307 :
308  REM  * TOP THIRD OF *
309  REM  *    PICTURE   *
310  DATA  0,0,0,0,0,0,0,0,1,1,3,3,
     3,3,1,1,0,0,30,30,62,62,61,61,
     123,123,115,115,225,225,0,0,0,
     0,0,0
317 :
318  REM  * DROP L/F ONE BIT *
320  DATA  27,65,8,10
327 :
328  REM  * SET BIT-  *
329  REM  * IMAGE MODE*
330  DATA   27,76,36,0
337 :
338  REM  * MIDDLE THIRD OF *
339  REM  *      PICTURE    *
340  DATA  15,15,63,63,127,127,255,
     255,255,255,255,255,255,255,25
     5,255,255,255,255,255,255,255,
     255,255,255,255,248,248,240,24
     0,224,224,96,96,0,0
347 :
348  REM   * DROP 1-BIT      *
350  DATA  27,65,8,10
357 :
358  REM  * BACK INTO BIT- *
359  REM  * IMAGE MODE     *
360  DATA      27,76,36,0
367 :
368  REM  * BOTTOM THIRD   *
369  REM  *  OF PICTURE    *
370  DATA  240,240,240,248,252,252,
     254,254,255,255,255,255,255,25
     5,254,254,254,254,254,254,255,
     255,255,255,255,255,126,126,60
     ,60,56,56,32,32,0,0
377 :
378  REM  * THIS EXECUTES *
379  REM  * TWO L/ FEEDS  *
380  DATA 10,10
387 :
388  REM  * THIS RESTORES   *
389  REM  * LINE SPACING    *
390  DATA 27,50
```

A WIDOW'S LAMENT

Yvette

Having been a computer programmer for five years and having thoroughly enjoyed it, I suppose I should have been forewarned when my husband was bitten by the bug. But when I considered the various hobbies he'd taken up, spent a small fortune on and then left to collect dust, I didn't suppose computing would be any different. When he suggested having a home computer I looked at the guitar and amplifier, the camera and darkroom equipment, the greenhouse and garden implements, etc. and said a very firm "No!" "But", he said, "I'd love to have one to play around with" (he's also been mad keen on electronics). "And", he added, "you could program it." That was the last straw. "I haven't got time to write programs for you. If you want a computer you'd better go and learn to program it first." No sooner said than done. Off he went and enrolled on a BASIC course at the local college. I didn't think he'd last the distance but he did and went on to do the Advanced BASIC course too! "Well", he said, "you said I could have a computer if I learnt to program." I could hardly refuse. This was March, 1981.

When it arrived, I confess I was disappointed. "Is that it? It looks more like a typewriter." "But it's very powerful", said he. I was surprised to find that it was true. I wrote a program for it but it was too much like work to me so I left him to it. Of course, he soon had complaints. "It takes ages with tape. I could do with more memory. I wish I knew people who could tell me how to do this." He joined BASUG and met people - which solved problem 3. He bought the chips and expanded to 48k but it was Christmas before we managed the disk. He was so proud to have managed for 9 whole months but he was glad to see the back of the cassette recorder.

By now he was on the committee of the local group. I gave birth to our third daughter, but if he hadn't happened to be off work for Christmas I often wonder whether he would have noticed! He was busy organising people and starting computer projects. He roped in my father-in-law to make hardware enhancements. He was always out "seeing" people exchanging ideas or at meetings (why do meetings go on all night?) Occasionally he had people round to our house. At least I saw a few faces to match to the names but they all vanished off to see the computer and I was left alone. The first few months weren't so bad, but then I started talking to myself and harbouring feelings of violence towards the Apple, feelings I managed to keep under control only with great difficulty. Then he was voted on to the National committee and I saw even less of him. After one computer show it had been so long since he'd spoken to the baby that she didn't recognise him!

Still, I have found a way to get noticed. When he needs some administrative type help, I always offer. I stick on stamps, take phone calls, help search for bits of paper, make coffee and try to keep the children out from under his feet. It has even caused him to remark, "I'm so lucky to have an understanding wife." It's untrue. I don't understand. I wish it was another woman. I could understand that. But when your rival is an expanded foam box with bits of plastic and metal inside how on earth do you start to compete? If any other wives have any solutions, I'd be pleased to hear from them.

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readers' letters

Erith Kent.

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Dear Sir,

I could not resist the challenge in John Sharp's Beginners Pages in the August issue. Enclosed is a simulation of INSTRing in Applesoft, together with a disk file for it to search just to prove it works. It will (with modification) also search any other strings given and does not generate errors if the target string is actually larger than the string to be searched (the loop does not execute). Also to anyone with a Europlus Apple who typed in my DOS 3.3 Disk Personalizer (and found it didn't work) alter POKE 103,0 to POKE 103,1 in line 1, this should clear it up. This poke tells Applesoft where to find the program start and Europlus Apples seem to be more fussy than my old 110 volt model (i.e. I didn't find out until I showed it to a friend and it didn't work on his machine!). My apologies for this idiotic slip and I direct you to page 39-40 of the June issue which told me what I'd done wrong (set start to the location, not the location + 1 as it should be). We live and learn.

I enjoy reading every issue of Hardcore and look forward to the next one!

Yours sincerely,

Rex M.F.Smith

```
 1  REM INSTRING IN BASIC
 5  INPUT "STRING TO SEARCH FOR ?
      ";A$
10  DIM AU$(50),SE$(50)
20 D$ =  CHR$ (4)
30  PRINT D$;"OPEN AUTHOR FILE"
40  PRINT D$;"READ AUTHOR FILE"
50 Z = 1: FOR N = 1 TO 50
60  INPUT AU$(N)
70  FOR M = 1 TO  LEN (AU$(N)) -
      LEN (A$) + 1
80  IF  MID$ (AU$(N),M, LEN (A$))
      = A$ THEN SE$(Z) = AU$(N):Z
      = Z + 1: GOTO 100
90  NEXT M
100  NEXT N
105  REM LIST TARGET ENTRIES
110  PRINT D$;"CLOSE AUTHOR FILE"

120  FOR N = 1 TO Z
130  PRINT SE$(N)
140  NEXT
```

London NW 11

Dear Sir,

I have an Apple II Plus, 48k and 1 disk drive. I only have 3 disks with my programs, and one of them holds a large percentage of them. Recently, when I catalog this disk, all I get is reversed '-' signs where the filenames should be, A on the far left for all files, even though my programs included machine language files. Also, according to the catalog, each program is 45 sectors long, i say according to the catalog because if they actually are, the disk must hold about 1600 sectors as there are about 4 screens of catalog.Any attempt to run a program from the disk results in a 'Disk Full' error.
I would be most grateful if you have any ideas as to how I could recover my programs.

Michael Tusch.

(Ed. Manufacturers of hard disks are pretty worried in case you should market your special 1600 sector floppy drive! Seriously though, you could try using FID to copy your files, the directory may be intact and the problem lie in the catalog routine of Dos. Other than this there are utilities available for repairing the directory which you might consider a help. In the coming months there are to be 'workshops' held around the country (see 'Courses meetings and events') where problems like this one can be put to experts, and hopefully solved. Please come!)

Rodington, Shrewsbury.

Dear Mr Sharp,

I should like to protest at your response to the letter from Graham Rubens, published in the June edition of Hardcore. To tell someone with a problem that it "shouldn't happen" is hardly helpful advise! If Mr Rubens is new to the computer game (I have been involved in it for the last 15 years), such a reaction might sound as if you disbelieved his assertion.
I would like to put the record straight. I too, suffer from this particular bug. However, it is wildly intermittent and, as I do not use Applewriter all that much, I haven't yet sussed out the combination of circumstances which lead to its appearance. When it happens, however, it is VERY annoying. My printer is a Microline 80, attached via an Aristocard. Perhaps the bus concerns some quirk of that card or printer or the combination, or the particular setting of the print para meters (the most likely area, I think).
Apart from this, I would like to express my admiration of BASUG - keep up the good work - but please, do not assume that because you have never had the 'flu, it does not exist.

Sally Roberts, MBCS, MBIM

(ED. When Mr Sharp heard this critisism he said "it shouldn't happen". Point taken though, thanks.)

Leyburn, Yorks

Dear John,

Does anyone know where RLOAD and RBOOT (DOS 3.3 Toolkit) need patching for use with DOSMOVER since they don't seem to operate with the relocated DOS?

Peter Blair

Bexley, Kent

Dear Quentin

...I own an Epson printer but I do not get distorted graphics. I can print a whole graphics page in extended mode, and I can print both graphics pages alongside with each other in full as demonstrated at the end of this letter. How do I do it? I own an MX 82 which is geared differently to overcome all your problems, and costs about the same as an MX80. The only problem is that dealers don't always seem to have heard of it. The other difference is that it can print up to 96 characters a line in normal mode, as opposed to the usual 80, with a comparable increase made possible in the other print modes. Although the text is more compressed, the print quality is still excellent and the compression not apparent, but judge for yourself. Of course this is little consolation if you own an MX80 but I believe that many people live with 'distorted graphics' because they do not know the alternative.
My printer is an excellent piece of hardware but it is let down by software and 'manuals' which are lousy!

Yours sincerely

Steven J Brown

Sheffield

Dear David

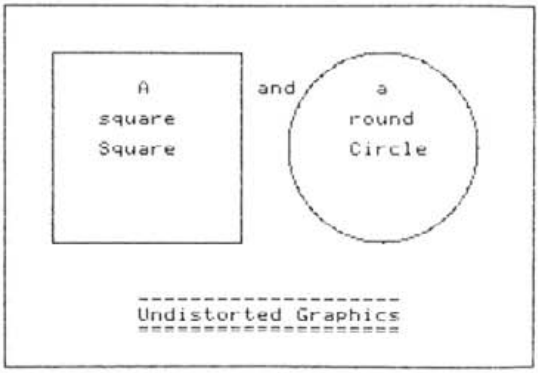
I do like the new size Hard Core. It's much easier to handle and very legible. My only problem is lack of time to work through all the material properly!
One or two unconnected thoughts. First to help David Reynolds with his problem of finishing off Dracula. I'm not sure exactly what he means by "fixing" the coffin. The coffin can be opened at night (when Dracula is at large) and entered. During the daytime when Dracula is in it, it is locked from the inside. It's easy to cook up a way to wreck Dracula's bolt so when he returns to the coffin at dawn he can't lock it. After wrecking the bolt have a good night's sleep and returnthe next day; you can then open the coffin lid and get to work with the stake.
Secondly I use Applewriter a lot at school for preparing handouts, tests, notes, etc and find the ability to store material on disk rather than in the form of reams of dog-eared sheets, Gestetner stencils and Banda masters very useful. So far I haven't discovered a way of making Applewriter print multiple copies. What I do is use CTRL-I to fill up the computer memory with as many copies of the original as possible and then do as many print runs as necessary. A little bit tedious - I'm sure there must be way of making it continue printing a set number of times without having to press C RETURN each time the Print Menu appears. Any solutions would be greatly appreciated.

Yours sincerely,

Roger Mather.

(Ed. You won't appreciate my personal solution which is to make the transition to Applewriter II. In my years working with its predecessor I did not find a solution. Any suggestions, readers?)

P.S. Here is an example of MX-82 graphics.



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- The disk must be free to rotate within its jacket without internal drag to avoid further data checks, excessive processing times and errors.
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Why you'll never find the best disk bargain in the bargain basement.

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BRITISH APPLE SYSTEMS USER GROUP

P.O. Box 174, Watford WD2 6NF

London, SW16

Dear Sir,

In his Beginners' Page, John Sharp poses the question "How do you set up loops to print the letters of the alphabet in pairs so that the letters an equal distance from each end are together?"

I would like to offer the following one line program to do this:-

```
10 HOME : FOR I = 65 TO 77 : PRINT
CHR$(I);CHR$(155 - I);" " ; : NEXT I
```

The ASCII code for A is 65 whilst that for Z is 90. By adding 65 to the code for Z we get 155. When we then subtract the gradually increasing values of I we have successively the ASCII codes for Z, Y, X, W, etc.

Vernon Quaintance

[illegible]
Ireland

Dear Sir,

Would anyone interested in becoming part of a Northern Ireland User Group please contact me at the above address.

Yours sincerely

B.P.Cooper

London SW19

Dear BASUG,

I have a useful point that might interest readers. Sometimes, especially after an error has occurred using a tape recorder, the Apple goes 'dead'. That is to say that anything typed in is ignored. The only way to regain control of the computer is to switch off, thus losing the program in memory .... unless you have a disc drive. If so, the computer can be put back to normal by loading a 1 byte file.

What actually happened was that the Apple was accidentally put into 'run only' mode (POKE 214,128). This means that almost anything typed in is treated as RUN.

The only way to cancel this is to POKE 214 with 0, but as anything typed is treated as RUN, this cannot be done. However, if location 214 has been previously saved on disc, it can be loaded back into memory, because all DOS commands will work.

When the Apple is operating normally, type BSAVE REGAIN CONTROL,A$D6,L1. When the problem occurs, type BLOAD REGAIN CONTROL (Not BRUN).

The Apple should now be back to normal.

Yours faithfully,

P. Faber

Jeddah,
Saudi Arabia.

Dear John,

I am an Apple 11+ owner out at the edge of the information frontier... In order to keep abreast of what is occurring in the 'real world', I would like to correspond with other Apple owners. I am also interested in trading software, especially Apple Pascal and CP/M. I have over 400 disks full of programs, most of which are in the public domain. I look forward to hearing from all of you soon.

Cordially,

C. Brandon Gresham.

London NW3

Dear Sir,

Being a newcomer to computing in general, and Apple in particular, I would like to comment on the various problems that I have experienced. I realise that perhaps I am preaching to the converted, but perhaps points may be raised which will help those who come after.

My first complaint is that 'Apple Authorised dealers' seems to include people who, by title, ought to know something about the Apple, and at least when asked to supply Apple allied hard and software, ought to know:-

a)If what they are selling will run on the Apple as it was supplied to the customer,

b)If Apple include things in their booklets, they should know if:-

1)those recommended items are compatible with other parts of the system, and

2)if not, they should not include these items in their recommendations and then excuse themselves with disclaimers.

I know the words 'caveat emptor' apply to the purchase of anything, but if one buys from an Apple authorised dealer then there should be some responsibility for the items sold.

Since the purchase of my Apple II, my costs have escalated considerably due to lack of proper

Seedlings

What's new in our Apple world

In this column we invite readers to tell us all about that special product which they think is newsworthy.
Like Susan Ben-David who is now about to launch General Manager on an unsuspecting public. This caught her attention as a very fast moving data base designed to simulate the office filing cabinet - providing a quick and efficient way to retrieve records. The user designs the screens the way he wants them, updating is simple and only a minimum of retyping is needed. Records can be selected by using any field and either viewed on screen or sent to the printer. General Manager organizes information in inter-relating levels in a tree structure. SBD has secured from On-Line the exclusive copying and distribution rights for the UK. The disk (with back-up disk) and manual costs £75.00.

Richard Zawadsky out at Mass Micros has come up with a brilliant idea for promoting his products. For every Apple system sold he gives away a free year's membership to BASUG (he pays for it, that is). Now if he sells a five hundred systems a month... (thinks).

A rather interesting press notice has been sent my way about APABS. Get it? - Apple Abstracts. This is an abstracting service for the benefit of the Apple user, collating Apple-related articles and books on business, science and technology, education and medicine in a wide range of publications, largely American. The abstracts are published as a full reference, a short summary and a star marking and are available on disk, in print and combined. Contact Parjon, 14 Broadway, London SW1H OBH.
A typical entry is:
Disc to tape backup utility :::R.Merton
Micro:The 6502:6809 Journal, 1982 June No.49 9-11 (USA E *****)
A short machine language integer basic listing is given, which will dump an entire 16 sector disk to tape in about 15 minutes. Four disks can be stored on a C60.
Seems to me 1) that APABS will be combing Hard Core for useful material and 2) that our well informed and hard-up members are likely to want to contribute abstracts to APABS. Worth a shot.

Writing in the Observer Julian Allason, founder of Microcomputer Printout, describes the Apple II as the "Land Rover" of personal computers, thought to be getting "a little long in the tooth now". Is this really so? Are we all over the hill now with our two-year old machines? Personally I can say that it is with an enormous sense of relief that I return to my dependable Apple after fooling around with the newer generation of mini-micros. Amazingly Allason does not mention the regular PET at all!

Your Computer has reported on a cheap rip-off 64k Apple, portable, costing under two hundred pounds. Cassette only, no slots, this machine has a mickey-mouse Spectrum-style keyboard, but to all intents and purposes runs all Apple software. This could be the answer for all those who want Apple power but don't have the money. Called the MPF-II and made by Multitech in Taiwan this machine differs mainly in its optional provision of Chinese characters. Your Computer did not tell me where to get hold of one.

more letters

guidance by the supplier. When I have complained, I have been told that the package that I have bought is an unusual one. I thought the Apple was advertised on the basis of its flexibility; I certainly purchased it on this basis. Up to now my problems are still not solved so perhaps if I itemise the parts of my system, someone else with the same items and problems, can let me know if and how they can be solved.
Europlus Apple II
Two disk drives
Integer card
Eurocolour card
Mountain Hardware Music system (which causes the problems)
Applewriter I
PFS
Epson 100 type 3
Can anyone help, or comment practically, as the only advice I've had from the dealer so far is to remove the music system card whenever I do other things. As they are connected by fragile wires it seems an impractical suggestion to have to keep removing them.
Yours sincerely,

B.L.Winter.

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AN INTRODUCTION TO ADVENTURE GAMES.

by Mike Siggins.

This article is written in response to the request in the June Hardcore for an introductory level "Adventure Guide". I will attempt to describe how to get started in the basic adventures, namely "Haunted Cave" on the introductory disk and the "Eamon" series, available from the Software Library. I will not, however, be describing the origins or development of adventure games and their ilk as this has been amply covered in the past. (see Practical Computing Mar.'82 et al.).

The central idea behind all the Adventure Games is that of "Role-Playing". This means that for the duration of the game you should put yourself in the shoes of the "Character" described by the program. The whole game is assumed to take place in an alternate "Universe" in which magic and monsters are commonplace. Just imagine yourself transported into the fantasy worlds of J.R.R. Tolkien or Stephen Donaldson. You will act, talk, fight and make decisions as if you were actually the person outlined by the game. This may seem an unusual concept but most people soon get used to it.

The local game environment is called a "Dungeon". This is usually a series of caves or cells below ground, but it could just as easily be a medieval town or an outdoor scenario. Each Dungeon is separated into several locations or "Rooms". The Room is used as a reference point for the Adventure, for instance, you could be searching around in the "North Chamber" for a treasure which is really hidden in the "Room of Shadows". The location is essential for the program to follow your progress and for you to avoid getting lost!.

The adventure program is designed to accept your instructions, which are entered by typing key words. It then compares your input with its range of vocabulary and implements them if possible. If the program cannot make sense of your instruction, it will respond with a standard message, usually along the lines of "Huh?" or "Sorry, I don't understand". Any action you make, or sometimes any word you say, should have a set effect within the game "Universe". The computer will work out what the effect will be and, sometimes, describe anything that is apparent to the intrepid adventurer.

The aim of an Adventure game is to participate. This sounds like a summary of British sport but is based on the fact that there are no "winners" in role-playing games. The game's enjoyment comes from the exploration of the fantasy environment, solution of the problems presented and surviving various ordeals to improve your character. This enables you to go onto more difficult stages of the Adventure - thereby obtaining large treasures and ever increasing glory! This "Character Advancement" aspect is brought out in "Eamon" by improving your fighting abilities and gold piece hoard, enabling you to afford better weapons, armour and spells.

The first step in playing any Adventure is to establish at least some of the key-words that the computer will understand. It is impossible to compile a comprehensive list as each game uses a different vocabulary. However, almost all adventures will accept these basic commands to enable you to move around or seek assistance. For movement, use "N", "S", "E" and "W". These will move you in the specified direction. Some games allow you to "Run N" and more complex ones will support "SE", "NE", etc. Another fairly standard phrase is "Help". This will usually provide some program assistance for the adventurer who is lost in an endless maze or trapped by some malign entity. Some programs will require you to "Look" in each room to establish the surroundings. Others will print a description automatically. The "Haunted Cave" is of the former type and "Eamon" uses the latter system.

Assuming you start with the "Haunted Cave" game, there is a range of about twenty words which will produce a response. The "Eamon" programs have quite a few more. The benefit of the "Eamon" programs is that a list of the relevant words is displayed whenever invalid instructions are processed. This means that the "Eamon" syntax is picked up and remembered. Each key-word is normally a verb and therefore requires an object word to act upon. So, during a game, you

could find yourself typing "HIT TROLL" or "DROP GOLD BAR". As a guide for the complete beginner, the following words, or ones with similar meanings, should get you somewhere in most situations:

get, take, drop, run, walk, climb, dig, use, light, kill, hit, rub, look, drink, eat, bite

Two other words often used are "Score" and "Inventory". The former is a numerical guide to how well you are progressing. Points are awarded for visiting different parts of the Dungeon, retrieving treasures and vanquishing monsters. Some games will present the score as a percentage of the total dungeon area visited, others somewhat arbitrarily. Inventory or "I" is a quick method of checking up on what you are carrying at any time. The relevance of this will become clear later.

Okay, now that you understand the basics of Adventuring, I will talk you through the first few actions of "Haunted Cave". It must be stressed that this game is a very simple version of the Adventure genre. As such, it is to be treated as an introduction only - if you feel you might like this type of game, move on to "Eamon" or any of the games described in hardcore no. 1.

After loading and running the program, you will be faced with the screen display. At the top is the room name, "Mouth". Below this is a list of the objects that can be seen in the room. To the right is a display showing the various exits from the room. At the very bottom is the "Command Box" where your instructions and the computer's responses will scroll gradually out of sight.

The first step is to type "Look". This will describe the surroundings and may give a clue to certain exits. Next, you will need to collect up any objects that you feel may be useful. Type "Get knife", "Get light" etc. Once you have picked up the objects, they are transferred to the lower box which signifies that you are carrying them. (there is no need for "Inventory" in this game). There is a limit of eight objects, so choose carefully.

Now all that remains is to type "Use Light". This will enable you to see what is going on in the dark caverns. The light, or lamp, is probably the most important item in your inventory, as without it, you will be left literally in the dark!. The Adventuring Lamp is almost invariably powered by a limited amount of fuel, which can run out at the most inconvenient moment. Some games will not permit you to move without light, in others you will be eaten by mysterious monsters that only venture out in darkness - in any case, the fuel in your lamp is to be treated sparingly.

After all this, you are on your own. Traverse the caverns, looking for treasure that can be collected, solve any problems you encounter by logical thought, fight any monsters that do not appear friendly and generally try to stay alive. Be prepared for anything!It is wise to consider that computers are very adept at hiding useful information in adventures. Be aware that hidden passages might exist or objects be concealed by magic or circumstance.

Many adventures are designed so that you cannot progress to a more advanced stage until certain conditions are met. This might involve obtaining, say, a key before going on to the next stage which contains a locked door. The way to deal with this is to work methodically and cover all possibilities. If all else fails, you can always ask someone who has completed the game. Lastly, it is not a bad idea to draw out a map as you walk through the myriad tunnels. This enables you to find your way out easily and often helps in deciding on possible exits for each room. Indeed, mapping becomes essential in the larger games as the number of rooms runs into hundreds.

The "Eamon" series of games is the next step up the complexity scale. They are much more aesthetically pleasing and have much more polish than "Haunted Cave". they also benefit from copious instructions both on disk and in hardcore no. 2. The early game of "Eamon" is an element entirely missing from "Haunted Cave". In "Eamon", before you set off on an Adventure, you are assigned a set of characteristics, can buy weapons etc. at the "Adventurer's Hall" and you can choose an appropriate name. This is an important step as it provides more

DIARY

October

23rd BASUG "Structured Programming". Talk by Ian Trackman. Also "Visicalc clinic" with Fran Teo. Beaconsfield School, Southall, London

November

1-5th Castle Priory College course: Technology and the Disabled
2nd Herts group meeting: Frank Kay "Bit Stik"
3rd Leicester Laughs "Bit Stik"
9th Kent's Own Group meeting
11th South London Group "What I do with my slots"
13th BASUG Workshop Nottingham University "Bit Stik"
25/27th Northern Computer Fair, Bellevue Manchester (any volunteers to set up BASUG stand?)
18th Medical SIG Royal Free Hospital: Word Processing Packages

December

1st Leicester Laughs AGM + Synthesizer
4/5th BASUG Beginning Machine Code course with Ian Trackman (Central London)
7th Herts group meeting
9th South London Group "Games"
11th BASUG 1-day workshop (provisional, Central London)
14th Kent's Own Group meeting
17th Apple Medical Forum + BASUG Medical SIG Middlesex Hospital

January 1983

29th BASUG Workshop Milton Keynes

February

3rd Leicester Laughs "Hard Disks"+"Languages for the Apple"

March

3rd Leicester Laughs "Printers"

(Does your group have any important dates to enter in our Diary?)

Role-Playing spirit and adds interest. You are more likely to play again with "Dain II Ironfoot" than with an anonymous puppet in "Haunted Cave".

It is probably unfair to compare the above games as they are obviously not of the same complexity level. The same would be true of comparing "Eamon" to "Zork", "Adventure", "Wizardry" or any of the other professional games now available. These games can be extremely complex and difficult and take many hours to play and complete. However, these games are of the same family as the ones introduced above and should be regarded as future expansion material.

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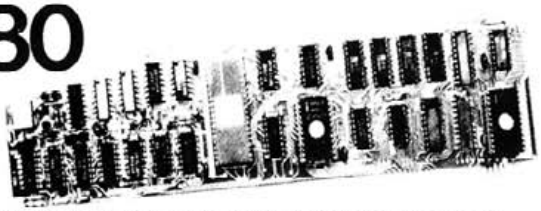

The Vision-80 has achieved world renowned success with the major magazines rating it superior to all its competitors. "CALL-A.P.P.L.E." May, 1981 scored the card higher than any of the other cards reviewed and described the 9 x 11 dot character set with 3 dot descenders as superb. In the May '82 edition of "BYTE", the senior editor described the Vision 80 as "a very refined 80-column board", and was most impressed with the many features. "SOFT TALK" magazine has simply rated it as the best!

The Vision-80 fully supports the Applesoft commands HOME, GR, HGR, HGR2, TEXT, TAB, VTAB, HTAB, INVERSE, NORMAL, and the text window is fully supported according to Apple's conventions. No other 80-column card can do this. No mechanical switches are needed to change from 40-column to 80-column, or to low or high resolution graphics, giving 5 independent screens. The keyboard is transformed into a proper typewriter keyboard, providing upper and lower case entry, and allowing the shift keys to function correctly with a visual shift lock indicator.

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