

On 2/5/2017 10:51 PM, Ray Cadmus wrote:

How about a picaxe? I believe that it is a pic with a basic built in. I don't know if any of that is still active. Rex at QRPme use to sell a pickaxe hatchet - simple board with a few sample applications. Just looked on his web site and says special order only.

Gangue,

I was one of the lucky ones who got to play with BASIC when Dartmouth College received an NSF grant to try BASIC out on high school students. In 1966, a teletype was installed in a room off our school library hooked directly to the Dartmouth GE computer running time shared BASIC. Nobody knew anything about it or how it worked. I was 16 at the time and it intrigued me very much so I called the computer center at Dartmouth and had a programmers handbook mailed to me. I started right in writing programs that progressively got more complicated. This BASIC was FUN stuff, you write a program and practically instantly you saw the results spitting out of the teletype on this beautiful yellow roll paper... Computer programming and ME got along just fine and it seemed right off.....that I had the knack!! I remember one of my best programs was a 3D graphing program of hyperbolic paraboloid functions.....on an ASR-33 teletype printout. Thus, I became one of the early members of the first graduating class of high school computer nerds!

After high school, I moved on to FORTRAN and Assembly while an engineering student at UMO but both of these languages were card deck based where you punched you program in on a card punch station, submitted them at the computer center desk and waited until they got around to scheduling those jobs to run...usually in the middle of the night! Everything was fine until I started to find that my card

decks and printouts were missing from the pickup shelves. Apparently my programming acumen was the direct cause of many people passing their programming courses. Fortunately, one of my EE classmates got the position of night run time attendant at the computer center and he held my job outputs in his desk so they didn't disappear anymore. After graduating, I programmed exclusively in Assembly while an applications engineer at Texas Instruments again with a data center and card deck MO. I always wanted to have my own 'computer center' and in 1976 I plunked down almost 10K for a very complete MITS Altair 8800B system that I spent about 6 months building. To put that in reference, I sold my 1964 Corvette Stingray for \$2300 only 2 years earlier in order to buy a brand new Ford E250 van for \$4600. Part of that high cost was my 'kick starter' contribution to Bill Gates as I remember paying in excess of 2K for every version of BASIC that ran on the 8800 and in every medium. I had various BASICs on paper tape, cassette tape and 8" floppy disk. I remember the tedium of flipping all those switches up and down to jamb the boot loader into the 8800 in order to fire up the system..and then having to read in the BASIC program in order to write a program. And I remember that the 8" floppy disk controller system cost about \$1500 for the kit!

Anyway, I was in heaven! I now had my own 'data center' and much more powerful versions of BASIC to play with...and I set off having more left brain FUN with a little right brain thrown in.. I had the 8800 for not even a year when I was back at the Computer Store in Burlington MA having a board repair when the UPS man came in wheeling a never before seen APPLE computer on his dolly. The Computer Store had been selected as the APPLE Computer distributor for New England and this was their sales floor sample. I

helped the salesman take it out of the box and set it up. We were floored by the overall design AND the beautifully designed motherboard inside. The salesman told me that they were looking for dealers...

I was back within a week with the \$\$\$ to buy my first batch and become an APPLE computer dealer. I opened up the very first retail computer store in Maine and spent the next 15 years happily selling computers, writing nifty software, creating cool peripherals and teaching people how to program. In 15 years of computer retailing, I've seen lots of personal computers come...and go. I still think that the APPLE computer was just about the best of the lot. Woz had done an amazing job of sticking so much capability and flexibility in the APPLE that, if you knew your stuff, you could make it sing and dance long after the cows came home! I still have my very first APPLE computer and it still works. I also have an APPLE on my computer bench at the shop and can still make it sing and dance. Computer retailing became pretty competitive in the mid 90's and APPLE was putting huge demands upon its dealers which I just couldn't live with. I sold my store to a group of loyal customers and started another venture...

I started RX Design putting my nerd skills to work designing computer and microprocessor based equipment for the disabled and was back in the world of tiny micros and Assembly language. Putting a TON of money into developing some pretty neat stuff, I ran out of operating cash and couldn't find any financial help so I had to get a 'real' job and pursue my left brain computer creations part time. About this time, I became a ham, N1SYZ, and started designing little

things for the QRP crowd.

So all the talk above is to set up the fact that I have been programming in BASIC for 50 years and with all sorts of computers, micros and programming languages for my entire professional career....and what now follows...

The Parallax Stamps came along and I jumped on them but the entry price was a bit steep as the BS1 sold for \$30 and the BS2 was \$50. That was a lot of dough to stick inside a product or creation with a low price point just to program stuff FAST. I remember having to socket the Stamps so I could take them out of projects when they were not in use, reprogram them for another application and stick them into different projects. Then Micro Engineering Labs came along with their PicBasic and PicBasicPro compilers and it was 'So long Stamps.' and 'Hello PIC micros!' (again). While the PicBasic compiler was affordable the resulting compiled programs required lots of memory so the little tiny micros could only support small and simple programs. OK, just use the bigger micros which of course had higher price tags and required more real estate.

Times were good. Then the Picaxe micro came upon the scene. The Picaxe was essentially a Stamp2 BASIC instruction set with lots of great enhancements shoved inside a tiny micro at a very low cost. I think the Picaxe 08 (8 pin micro) sold for \$4.75 verses \$49 for a Stamp2. At first it was only available in the UK where it was created. Then gradually it arrived in the US in one then two and then a handful of outlets... I bought mine directly from the UK and then from an authorized outlet in Baltimore. I didn't use it for commercial stuff but more for personal nerd play. The beauty of the Picaxe BASIC is

that it has built in commands for all kinds of neat interface applications. Wanna build a remote control gizmo, use the IR commands and control it with a \$6 TV remote control. Temperature, R/C servos, toy DC motors, LEDs and such all have easy to use commands built into Picaxe BASIC. Of course the micros have grown in features and the Picaxe BASIC has grown with them. The current Picaxe 08M2 is only 3 bucks at Sparkfun and the BASIC inside it is mind blowing! You do have to either make or buy a downloading serial cable but other than that, 3 AA batteries, 3 resistors and a diode and some sort of prototype board or solderless breadboard is all you need to get yourself playing around with Picaxe micros. The manuals, programming guides, and programming editor are all online and FREE! I made my downloading cables out of old discarded DB9 serial cables... If you think you are as smart or even smarter than you nearest 5th grader, the Picaxe micro is just the ticket to getting started in the joys of programming....

Indeed, I created the Hatchet controller board for a presentation I gave at Ozarkcon many years ago. I remember giving everyone in attendance a free Hatchet pcb and then the ensuing line of QRPer at vendor night cuing up to fork over \$20 for the parts baggies!! I have done several presentations at QRP events introducing QRPer to the joys of the Picaxe and even once going head to head with an Arduino fan. Now the Arduino fans are right in that it is a very fine microprocessor based system with lots of shields that you can stack together to make super cool systems. (HINT: while not directly plug-inable, you can interface some shields to a Picaxe with creative cabling.) And of course there is the new Raspberry PI, where the basic computer module is cheap but you really do need close to \$100 to get all the stuff needed to get into the programming business.....BUT, I defy anybody to show me how you can get into the Raspberry PI or Arduino programming business for 3 bucks and have

practically instant BASIC programming capability! For the Arduino, there is learning C..... and for anybody wanting to create something cool, you probably have to find a 'sketch' that somebody else wrote, copy it and merge it into your creation which is another task I won't get into.... Sorry, but if you are NOT a programming professional or experienced programmer but a lowly beginner wanting to discover the joys of creativity and programming and you still want to sit down at your bench and create something cool out of you very own brain and fingers, THE PICAXE MICRO IS THE ANSWER!

I'll say it again: If you are NOT a programming professional or experienced programmer but a lowly beginner wanting to discover the joys of creativity and programming and you still want to sit down at your bench and create something cool out of you very own brain and fingers, THE PICAXE MICRO IS THE ANSWER!

I have created some Picaxe based kits in the past mostly to support presentations I have made at QRP gathering around the country. Some are still available as I still have pcbs for the kit still on the shelf. If I run out of pcbs, I typically evaluate the kit to determine whether or not I want to put more money into it. The Hatchet had a limited run of pcbs and I listed it as special request to gauge interest... which is almost none. However I did discover a couple of pcbs in my most recent shop clean up so I could sell a couple more if anybody is interested. I have several other designs still available and one nice design that I have pcbs for but no programs written as yet (no time!)...so it sits.

Link to my Picaxe based kits: <http://qrpme.com/?p=MICRO>

OK, I'll climb off my soapbox now go strap myself to a vertical wooden pillar with lots of kindling at its base and let the flames roar.....

Rex W1REX