

Mike Strong

Computer connections

About This File and the collection of PDFs that go with it

This file was prepared to help verify qualifications to teach online computer lessons at UMKC by showing experience in a field, across decades, for which I do not have a degree. Below is the result. These were new (2016 and 2017) asks, after having been employed by UMKC 1999-2000 and from 2003 to, eventually, summer 2018 after which PACE was disbanded.

I needed to provide evidence that what I said in this document was valid. After much searching through old boxes I found old invoices and pay records to support the statements. Those are in a set of separate documents, each for a place I worked.

I also have a document of confirmation from the CEO of one firm (Preco Inc). I offer that *separately on request only*. These go back years and finding verification was not easy. For that matter, UMKC HR itself did not keep records going back before 2004.

After all those years, why ask in 2016 and again in 2017? It wasn't PACE asking. A hired gun hired to take over all online courses decided to toss just about everything. After he killed PACE he hired on, for good money, with the accreditation firm he had gotten the university to pay a lot of money for.

Each time previously I gave full information, the information was either lost or discounted. Therefore, this documentation. I decided I would keep this as part of any hiring documentation or disclosure.

So, I am making this a permanent part of my own resume, or, as these things have evolved, my ePortfolio. I kind of like the idea of an "ePortfolio" as my resume doesn't lend itself to standard forms or expectations. If you want to know more please ask.

Mike Strong

Following is the original document:

This is yet another attempt to show what I've done and give some idea of my work with and knowledge of computer work. While I haven't a degree in computers, most of my life has been computer filled. Because I don't have a lot of letters after my name I hope you will take enough time to look at the items here. Ask me directly if you want. I have no problem with that.

Some of this requires annotated examples of the work. This is a presentation for coders. Someone who can look at an interface (such as a POS display in a store) and imagine not only the code behind it but the thinking which went into the interface and the decisions which were made.

Fall 1966

First computer course in Fortran with IBM Systems 360, University of Nebraska, Lincoln

We did our own card punching

Handed in our rubber-band bound pile of cards at the computer center window

And came back the next day, or late at night, to see whether it ran,

If it didn't run we poured over our code and tried it again.

Air Force

1969 Air Force - technical course at Ft. Belvoir, Virginia with the Army engineer School Topocom as a topographic computer (Air Force title was geodetic computer). Listed on my DD-214 as Apprentice Data Computer Course – job code 22231. Once in my squadron, after my first field trip on a team I cross trained as a geodetic surveyor – job code 22230, finishing as 22250 (the 4th digit in the job code is the pay grade – 5 is E5, then Staff Sergeant).

1969 Air Force - Assignment to squadron. Duties were to check computations from the field surveyors and to code those measurements into 80-column forms for card punching to be fed into our Burroughs mainframe. Later this was replaced by two IBM computers an 11xx something (if I remember right) and a 14xx something).

1969 In the field with Olivetti Programma 101 "portable" computer to work directly with surveyors in the field. This led to my decision to cross train as a surveyor. That is listed on my dd-214 as Upgrade Training General Subjects. (Note portable meant 87 pounds.)
This also led to minor programming on the Olivetti. One of my programs was entered into the regular list of programs for the squadron to use in its work. That was a program to adjust (reduce) tape measurements for temperature, sag and stretch over distances. Tapes were used to measure relatively short distances. We used microwave and optical measuring instruments for long distances. Geodimeters used a tungsten bulb until we got the first laser measuring Geodimeters. We performed first order class I surveys, the most accurate available. They were not land surveys but established positions (lat/long), elevation, azimuths, gravity, for maps and navigation.

I have an example scanned of this particular program below. It was number 22 in the squadron's list of programs authenticated for field use on the Olivetti. I had a need for the program so I taught myself the coding for the machine and submitted it to the squadron for use.

The Olivetti Programma 101 was coded in its own machine code. And only 128 instructions at a time loaded in with magnetic cards which slid through a chute on the machine. Longer programs were done in sections by chaining the sections: put in the first card, enter data, next card, more data and so forth until final output which was on cash-register type paper rolls.

1972 Just before I left, the squadron brought in Wang desktops for the field teams with lines of Nixie tubes instead of a screen, a tape drive for memory and programs and an IBM Selectric for print outs. The work consisted of computation of geodetic data, measurement of geodetic data (size and shape of the earth). Most of the jobs were TDY (Temporary Duty assignments) traveling in small teams regulating the work ourselves to accomplish the job goal. We measured directions (angles), elevations, latitudes, longitudes, azimuths and gravimetric data in support of mapping, navigational and base-line purposes to accuracy requirements of class one.

All of this was placed first on observation forms then computed on the forms, followed by entry into our field computers and finally entry into our mainframes at the home squadron. Each stage of computation was a check on all the other stages.



The image above is scanned from my tape reduction program scanned from my set of squadron program documentations. This is a three-page program documentation from April 10, 1970 to correct for variables in tape measurements. Below is (first) a text abstract of page 2 and (second) an image lift from page 2 of the same material. The top left item indicates the machine (P101) then the program number (22) and the squadron unit (VS).



P101-22-VS

10 April 1970

5. CONSTANTS IN REGISTERS: D - 6371000
 e -100
 E = 20
 f = -1.0
 F = 86206.9

The K-term used for 30 meter tape is derived from the following equation:

$$K = 1/24(w/5000) \text{ in which } W \text{ is the weight in grams of a one meter segment of the tape.}$$

The K-term is written on the calibration sheet.

6. TO USE THE PROGRAM:

1. Set the decimal wheel at 9.
2. Insert card, press V
3. Enter "meters" from uncorrected lengths column.
4. Enter K (catenary constant).

5. Enter tape correction (from table on front of tape's calibration sheet)
6. Enter setback of setup. Setback is negative, setup is positive.
7. Enter temperature (in degrees centigrade).
8. Enter the difference in elevations of the end points of the line
9. Output is horizontal distance.
10. Enter elevation.
11. Output is sea level distance.

PROGRAMMER: ALC M.H. Strong
AUTHENTICATED: Capt Carlos L. Bush

Page 2 of 3

Below is a scan of the same page for verification. I can also bring in the book.

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5. Enter tape correction (from table on front of tape's calibration sheet).
6. Enter setback or setup. Setback is negative, setup is positive.
7. Enter temperature (in degrees centigrade).
8. Enter the difference in elevations of the end points of the line. *IN METERS*
9. Output is horizontal distance.
10. Enter elevation.
11. Output is sea level distance.

PROGRAMMER: ALC M.H. Strong
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On the next page is an annotated image scan of the program code, constants declarations and a sample run.

Program code for my 10 April 1970 Tape Reduction
 program on the Olivetti Proramma 101
 Read top to bottom, left to right

```

AV  CX  r+
/0  F+  CX
S   B+  A+
CI  C+  /0
↓   AX
++  B+  A0
AX  -S  /0
X   ↓   /0
S   λ   V
X   b+  S
S   b-
+   AV
S   /0
+   A0
B+  C+
S   S
↓   ↓
E-  D+
  
```

Constants in the
 program and the
 registers they are
 stored in
 These are entered
 as the last items
 in the program

```

0371000 D1
-100 01
20 E1
-1 F1
86206.9 F1
  
```

Sample run of the program
 with a 30 meter measurement
 on tape corrected to 28.9849
 at an elevation of 4300
 becomes 28.9653 as the
 sea level distance

```

V
30 S
0.96887 S
-0.00165 S
-0.0162 S
45 S
7.6 S
28.984871755 A0
4300 S
28.965308906 A0
  
```

To clarify the example run shown above at the right I've typed it out below with annotation on the right. Everything is an input except for the horizontal and sea level distances.

V	starts the program
30	length in meters
0.96887	catenary constant
-0.00165	tape correction (calibration)
-0.0162	setback
45	temp in degrees centigrade (45 C = 113 F)
7.6	elevation difference between ends of the tape, in meters
28.984871755	(output) horizontal distance
4300	elevation above sea level
28.9654308906	(output) sea level distance



That is a Wild T-3 theodolite on the pier (a 16-foot deep, belled at the bottom pedestal) about 300 meters from the A-point on a missile silo, here in South Dakota, based out of Ellsworth AFB in the Black Hills. There are two of these and we turned angle on both plus the A-point as well as an azimuth from a A-point. These were the mathematical “gun sights” for missiles until the geosensor came along in 1972. We re-certified these on each US missile site each year, more than 1,000 of them. As deep as these piers are they still moved each year, sometimes because tractors hit them, always because of soil movement.



This is a Wild T-4 (say Vildt) theodolite used in my last year after training as an astronomic surveyor shooting astro positions (raw, un-adjusted latitudes and longitudes) on stars, usually for missile sites.



This job was for the Navy’s parachute test station on the Salton Sea in Southern California, in an area known as the American Sahara (The Bogart movie “Sahara” was filmed here). We are running levels to transfer an elevation from one elevation marker to a new location.

Below is my DD-214 showing my exit from the Air Force. At the top are my name and rank on exit (Staff Sergeant). In the middle are any awards, etc and my last occupation designation of Geodetic Surveyor 22250 where 222 is the job, 5 is the pay grade and the zero (0) means geodetic surveyor (1 is geodetic computer).

THIS IS AN IMPORTANT RECORD SAFEGUARD IT.

1. LAST NAME-FIRST NAME-MIDDLE NAME STRONG MICHAEL HOWARD		2. SERVICE NUMBER [REDACTED]		3. SOCIAL SECURITY NUMBER [REDACTED]	
4. DEPARTMENT, COMPONENT AND BRANCH OR CLASS AIR FORCE RegAF		5. GRADE, RATE OR RANK SSGT	6. PAY GRADE E5	7. DATE OF RANK DAY MONTH YEAR 01 May 72	
7. U. S. CITIZEN <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		8. PLACE OF BIRTH (City and State or Country) Norfolk, NE		9. DATE OF BIRTH DAY MONTH YEAR 21 Nov 47	
10. SELECTIVE SERVICE NUMBER 25 74 47 222		11. SELECTIVE SERVICE LOCAL BOARD NUMBER, CITY, COUNTY, STATE AND ZIP CODE LB #74, Columbus, Platte, NE		12. DATE INDUCTED DAY MONTH YEAR NA	
11. TYPE OF TRANSFER OR DISCHARGE Release From Active Duty		12. STATION OR INSTALLATION AT WHICH EFFECTED Francis E. Warren AFB, Cheyenne, WY 82001			
13. REASON AND AUTHORITY AFM 99-10 Ch 3 sec A para 3-2 EDN 203 (ETS)		14. EFFECTIVE DATE 07 Nov 72		15. TYPE OF CERTIFICATE ISSUED NA	
16. LAST DUTY ASSIGNMENT AND MAJOR COMMAND EMAC, 98Sq, DMA		17. CHARACTER OF SERVICE HONORABLE		18. REENLISTMENT CODE RE-1	
19. DISTRICT, AREA COMMAND OR CORPS TO WHICH RESERVIST TRANSFERRED USAFR		20. TERMINAL DATE OF RESERVE/USFRS OBLIGATION DAY MONTH YEAR 07 Nov 74			
21. CURRENT ACTIVE SERVICE OTHER THAN BY INDUCTION a. SOURCE OF ENTRY <input checked="" type="checkbox"/> ENLISTED (First Enlistment) <input type="checkbox"/> ENLISTED (Prior Service) <input type="checkbox"/> REENLISTED b. OTHER AFQT 97-1		22. TERM OF SERVICE (Years) 4		23. DATE OF ENTRY DAY MONTH YEAR 08 Nov 68	
24. PRIOR REGULAR ENLISTMENTS None		25. GRADE, RATE OR RANK AT TIME OF ENTRY INTO CURRENT ACTIVE SVC Airman		26. PLACE OF ENTRY INTO CURRENT ACTIVE SERVICE (City and State) Omaha, NE	
27. HOME OF RECORD AT TIME OF ENTRY INTO ACTIVE SERVICE (Spec AFD, City, County, State and ZIP Code) 3570 34th Ave., Columbus, Platte, NE 68601		28. STATEMENT OF SERVICE			
29. SPECIALTY NUMBER & TITLE 22250 - Geodetic Surveyor		30. RELATED CIVILIAN OCCUPATION AND D.O.T. NUMBER 018,188 - Surveyor, Geodetic		31. CREDITABLE FOR BASIC PAY PURPOSES	
		32. TOTAL ACTIVE SERVICE		33. FOREIGN AND/OR SEA SERVICE	
		04 00 00		00 06 00	
34. DECORATIONS, MEDALS, BADGES, COMMENDATIONS, CITATIONS AND CAMPAIGN RIBBONS AWARDED OR AUTHORIZED National Defense Service Medal AFM 900-3, Small Arms Expert Marksmanship Ribbon AFM 900-3, Air Force Outstanding Unit Award AFM 900-3, Air Force Commendation Medal SOG-323, HQ MAC, 14Jul 72, Missleman Badge SOG-63, HQ 90SRW, 2 Dec 69.					
35. EDUCATION AND TRAINING COMPLETED Basic Military Training 1968 Apprentice Data Computer Course 3ABR22231 1969 Upgrade Training General Subjects 10000 1969					
36. NON-PAY PERIODS TIME LOST (Preceding Two Years) No Time Lost		37. DAYS ACCRUED LEAVE PAID NOT PAID, SEE ITEM #30		38. INSURANCE IN FORCE (NGL or USGL) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
		39. VA CLAIM NUMBER NA		40. AMOUNT OF ALLOTMENT NA	
		41. SERVICEMEN'S GROUP LIFE INSURANCE COVERAGE <input checked="" type="checkbox"/> \$15,000 <input type="checkbox"/> \$10,000 <input type="checkbox"/> \$5,000 <input type="checkbox"/> NONE		42. MONTH ALLOTMENT DISCONTINUED NA	
43. REMARKS College - completed 1 year. Blood Group O Pos. M90 470 095 E95 1966. SECRET, INAC, 3 Dec 68, BOD NACC, Ft. Holabird, MD #325-2286. Indochina - No; Korea - No; Vietnam - No. DAFCO: 22270. "I have been counseled as to conditions for my re-entry into the Air Force and I understand that every former Air Force member must meet the enlistment/reenlistment standards in effect at the time of his application. Item 20b; Leave balance not available at time of separation.					
44. PERMANENT ADDRESS FOR MAILING PURPOSES AFTER TRANSFER OR DISCHARGE (Show AFB, City, County, State and ZIP Code) Same as Item #21		45. SIGNATURE OF PERSON BEING TRANSFERRED OR DISCHARGED <i>Michael Howard Strong</i>			
46. TYPED NAME, GRADE AND TITLE OF AUTHORIZING OFFICER CHESTER L. COFFING, MSOT, USAF CHIEF CAREER ASSISTANCE & COUNSELING		47. SIGNATURE OF OFFICER AUTHORIZED TO SIGN <i>Chester L. Coffing</i>			

DD FORM 1 JUL 70 214 PREVIOUS EDITION OF THIS FORM IS TO BE USED. ARMED FORCES OF THE UNITED STATES 2

My Early Personal machines

- 1977? Sinclair using a small tv for the screen
- 1978 or 79 - Radio Shack pocket computer (made by Sharp) This had a full-key chiclet set of keys with a numeric keypad, a single line display, 1.5kb memory, BASIC, printer and tape memory.
- Commodore 64 - 1983
- Commodore 128 - 1985
- IBM compatible (self-built from parts), the first of many and I am still building my own boxes

Clinic Masters - 1983 - database



Me in 1983 with Commodore 64 and Brother daisy wheel printer in Clinic Masters office in Lee's Summit, Missouri. The blue manual next to the monitor is for EasyScript word processing software. Photo by Tony Latona.

Commodore 64 - From 1983 - Database, programming

Created a sales mailing database for use in a 20th anniversary meeting with Clinic Masters / Mind Dynamics. Had more than 13,000 names on 84 floppies all running with SuperBase 64 program. Superbase 64 had 3,500 kb of memory to run in using a BASIC language to program in.

I had been hired to be the meeting coordinator for this, held at the Hyatt Regency, and we were looking for, and got, 1,000 attendees. Out of this some were current clients, some were former clients and some of those former clients signed up yet again.



A photo I took from overhead catwalks of the 1,000 attendees in October 1983 with a 4x5 Crown Graphic. This combining three separate pictures to get every one in.

I did a couple of things with this. First building the database by programming an input program for temps. This taught me a great deal about bulk mail but more importantly about working with and programming for short-term workers setup to perform a job on a company's computers. Much of my interface philosophy was formed here, early on.

In addition I built a switch box (electronic parts) with a flat cable which tapped into the flat cable between the C-64's keyboard and its motherboard. That switch box allowed a more efficient production of customized printed letters and envelopes to prospects, by isolating the printing controls (switch box) physically off to the side of the keyboard. We were able to get up to 1,200 letters and envelopes per day from a 12 cps daisy-wheel Brother printer.

1984 Heath-Zenith 150's with 10 meg drives - Database, programming

The Commodore proved the worth of computers to the recruiting efforts of Clinic Masters and so they decided to go in for heavier duty computers. This time MS-DOS based. We got two **Heath-Zenith 150's** at about \$4,500 each and a 10-meg drive each which were \$1100 dollars each.

I installed dBMan, a dBase category program with a more helpful command line and interpreter (when an error was encountered in the run dBMan would drop out, show the line, allow a correction, and continue). Unlike dBase which just dropped you.

I exported all our records from the 84 Commodore floppies into CSV files and imported them into dBMan where I duplicated the bulk mailing applications in the dBase language used by dBMan. Once on this machine we then networked our computers and added in more computers in the office. This allowed database access to all customer and prospect records very quickly.

Other Tasks – phone dialer manual

There were other tasks such as support for a phone dialer to market the chiropractors (sample pages from the manual are below). Under the name of MetaMarketing they sold this device for several thousand dollars. It was made in Merriam, KS by a guy named Lumpkin (don't remember his first name or his company name) with a Tandy Radio Shack computer controlling the operations. If I remember right the price was \$4500 (maybe \$3500 but I think the higher figure is right). It could dial some 1200 or more numbers in a day.

The responses were often "colorful" but the numbers dialed assured there were enough real responses with clients that these were profitable.

The list of phone numbers was programed to tape on a digital-cassette tape drive. The machine could also work in incremental mode, that means dial every 5th or 10th or nth number. If you ever wondered how "they" got your unlisted number, they didn't, the dialer just incremented from a starting number.

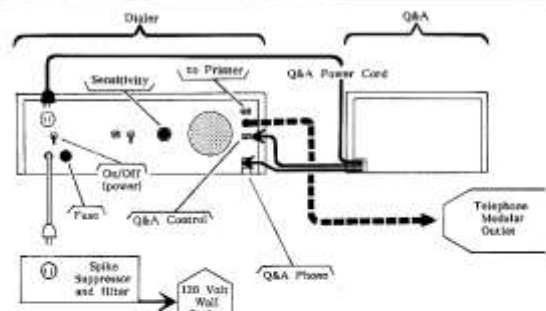
I wrote, illustrated and laid out the manual for the machine using text from a proportional daisy wheel printer and images pasted up together. Here are a couple of pages from that manual. You can see it is VERY early.

I scanned these from a still existing manual. There was a total of 30 pages printed on both sides with cardstock covers. The pages below are a sample only.

CONTENTS

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INSTALLATION



Each system consists of two major pieces, the Question and Answer device called the Q&A and the Dialer itself. The two units should be placed side by side on a hard flat surface at least 18 inches by 22 inches.

Before installing, make sure the power switch on the back of the unit is in the "OFF" position.

1. Connect the Q&A's power cord to the power outlet at the rear of the dialer unit.
2. Connect the telephone modular jack from the Q&A into the telephone jack at the bottom right on the rear of the dialer unit.
3. Connect the four pin cord from the Q&A into the dialer at the socket labeled "Q&A Control."
4. Connect the dialer's power cord into your 110 volt wall outlet. You should make sure that your machine is protected electrically by purchasing a spike suppressor and filter for the power line. The suppressor (about \$22 at Radio Shack) plugs into the wall outlet directly, and the dialer, in turn, plugs into the suppressor.
5. If you are using a printer, plug the printer into the wall outlet and connect the printer cable from the outlet labeled "Printer" on the back of the dialer to the plug position at the back of the printer. (See Printer option)
6. Connect the phone cord to your phone line modular jack.

Programmed Dialing (without storing)

KEYS TO PRESS	EXPLANATION	THE DISPLAY SHOWS
	When you have entered the three numbers you want: press the "0" key ONCE.	1832-0
	Press "P"	
	NOTE: Using this method you cannot enter more than the maximum quantity of phone numbers before dialing. When using this method do not continue to enter numbers past the point at which "FIELD" flashes on the display.	

Correcting Entries

Incomplete numbers

	If the number is not yet fully entered simply press "E". This will produce a rapidly flashing "Error" display, meaning to the computer that there are not yet at least seven digits entered. The computer will not accept an entry of less than seven digits. Now, simply re-enter the number as originally intended.	
--	---	--

after complete number is entered

	If you have not yet pressed "0" and the number is wrong, go ahead and move to any way (press "0").	L 81-
	Now, backspace. Press "0" and then "E". The Dialer will automatically backspace by the last number. Should you need to erase a quantity of numbers Continue the "0" then "E" sequence. Each time you do into the Dialer will backspace itself by one number.	L 81-7
		L 71-

AUTO DIAL Mode (incremental dialing)

The Auto Dial Mode will allow up to 5,000 numbers per dialing session after only a few minutes spent programming. This mode is best used when you wish to access an area as designated by the phone number prefix.

The Auto Dial Mode works by "jumping" in one, two, three, four or five prefixes, followed by the starting last four digits. After dialing the first phone number (first prefix and the starting four last digits) the machine will use the same number and dial again. Each time the Dialer phones out it adds two to the previous number.

If you have input only one prefix, when the Dialer reaches the one-thousandth number it will re-dial all numbers and all Weeks, once. If you have a printer connected to the Dialer, the printer will now print out a list of the total number of calls.

When all prefixes have been dialed through, the Dialer will re-dial all numbers and all Weeks, once. If you have a printer hooked up to the Dialer, once all re-dials have been made, a listing, by category, of the total number of phone calls made, will be automatically printed. This listing will include the overall total number of calls (see PRINTER OPTION). If you have not connected a printer to the Dialer and you wish an accounting of the calls made, by category, go to List Mode (see section on LIST MODE).

Setting Auto Dial (dialing by increments of 10)

KEYS TO PRESS	EXPLANATION	THE DISPLAY SHOWS
	Check the timer to make sure it is on and that you have the desired dialing times programmed in. Now the routine is the timer.	
	Set the selector switch on the Q&A unit to "AUTO ANSWER."	
	Press the "0" and the "0" keys at the same time. The Dialer now asks you which code you want (Code-7).	Code-7
	For the Auto Dial Mode, press the "0" key. The display will show that you are now in auto dial mode. The Dialer is waiting for your next instructions.	Auto d

1984 side contract with SMI for

Database programming with dBMan to

- Keep track of inventory
- track pricing and sales
- produce tagged output designed for Xerox Ventura Publisher to create catalog pages for their line of restaurant equipment. I could roll out a report from dBMan which included the correct markup tags for an import into Xerox Ventura Publisher creating a full catalog, adding the starting pages, table of contents and index pages around the import.

I also wrote a set of horse-race handicapping programs for the owner of SMI, Elton Smith. The program used previous race data entered from the Racing Form to compute each horse's expected performance for any length race. Among other things I learned that the horse pulling out in front is not really going faster, it is just not fading as fast as the other horses. I also learned that the shorter races for quarter horses limited the available data making them not very predictable by comparison with thoroughbreds and that dogs are too unpredictable to bet.

Below are scans of two pages from a 1990 SMI catalog. This was generated by the database into tags usable by Xerox Ventura Publisher. The illustrations were scanned in an added to the pages separately then the table of contents was generated. The title page, shown at left, originated in Ventura.

PRICE LIST

January 1, 1990

SMI

Telephone
816-471-3199

Mailing Address
P.O. Box 410015
Kansas City, MO 64141

Shipping Address
1445 Swift
North Kansas City, MO 64116

SMI WOOD EDGE TOPS
January 1, 1990

SERIES	12,000	13,000	13,000	15,000	16,000
SQUARE					
24x24	129.00	174.00	199.00	251.00	189.00
24x30	157.00	209.00	239.00	298.00	252.00
24x36	196.00	245.00	285.00	352.00	292.00
24x42	241.00	302.00	346.00	429.00	359.00
48x48	293.00	343.00	376.00	472.00	372.00
RECTANGULAR					
24x30	143.00	190.00	211.00	278.00	182.00
24x36	157.00	206.00	229.00	297.00	238.00
24x42	174.00	220.00	244.00	314.00	253.00
24x48	198.00	254.00	280.00	359.00	283.00
24x54	241.00	294.00	322.00	417.00	324.00
24x72	293.00	343.00	376.00	472.00	366.00
30x30	425.00	492.00	554.00	704.00	586.00
30x36	459.00	530.00	591.00	744.00	622.00
30x42	490.00	564.00	624.00	784.00	658.00
30x48	526.00	598.00	658.00	824.00	694.00
30x54	577.00	648.00	708.00	884.00	744.00
30x72	708.00	776.00	836.00	1044.00	884.00
36x36	516.00	584.00	644.00	804.00	664.00
36x42	549.00	618.00	678.00	844.00	704.00
36x48	585.00	654.00	714.00	884.00	744.00
36x54	621.00	690.00	750.00	924.00	784.00
36x72	752.00	818.00	878.00	1084.00	924.00
36x96	908.00	974.00	1034.00	1284.00	1084.00
48x48	507.00	562.00	616.00	756.00	616.00
ROUND					
36 DIAM	271.00	315.00	353.00	431.00	332.00
38 DIAM	302.00	346.00	384.00	472.00	362.00
42 DIAM	362.00	414.00	462.00	564.00	432.00
48 DIAM	439.00	494.00	540.00	664.00	512.00
54 DIAM	533.00	590.00	636.00	784.00	612.00
60 DIAM	644.00	714.00	760.00	912.00	732.00

2 1/4" Bull Nose Edge 2" Bull Nose Edge 2 1/4" Bullnose Traditional Edge

Add per:
 Race Counter 43.00
 SPECIFY Lustrine Manufacturer, Number, Woodgrain, or Solid Color 43.00
 Square Edges can be substituted for any Bull Nose. The price is the same. Add 50¢ to the Series number.
 Example: 12,000/SQ

SPECIFY WOOD EDGE STAIN COLOR

Natural Oak	Walnut	Cherry	English Oak	Mulberry
Special Stain Mix	Minimum or 15 Days	English Oak	4.00 15%	4.00 15%

All SMI table tops are 1 1/4" thick with backing board.

Making “Boxes”

In the middle 1980's I began making my own IBM-compatible “boxes.” It was after I had a Commodore 128 with IBM emulation software I realized it would be simpler and cheaper to just make my own IBM-compatible boxes. I've been making them ever since.

My first was a standard box with faster processor (8086-compatible chip from [Seattle Computer Products](#)) with Seattle DOS. Then an AT machine (much faster at 6 mhz, seems quaint now but it was blazing then). And I made a few for friends. I also did some mods for friends.

For example, I was asked once to put two generic half-height floppies in a full-height bay in a Tandy 1200. The Tandy flat cable was \$40+ and the regular flat cables were \$5 or so. After a little poking I realized that Tandy, to keep things proprietary, had merely moved the flat cable to the side by one wire in the cable in the connector which plugged into the motherboard. I took the \$5 cable, opened the flat-cable's connector, shifted the flat cable over by one wire, put it back together and we had two working floppies.

Today my computers include slide in hard drives for my video work. I go through terabytes pretty quickly, replacing four-tb drives every month or so, depending on shows to cover.

1987 - Mainframe operator

on Prime 250 for Taxline Services (seasonal job)

TLS, 9381 W. 75th St, Overland Park, KS 66204, 913-642-1040

- Second shift manager and computer operator on Prime 250 (mainframe)
- Operator of Xerox 4050 laser printer.
- Managed (and trained) staff of data entry operators for tax return work.
- Wrote training materials for data entry
- Wrote documentation for various utilities and communications operations for file transfers between local and regional office.
- Wrote a shell program in Prime CPL for the data entry functions and wrote the documentation to go with it.
- All the documentation was written with Xerox Ventura Publisher

1987-92 - Taught computer courses

Electronic Office Systems,

3855 S. Northern St., Independence, MO 64052 (no longer there)

now at 4025 NE Lakewood Way, Lee's Summit Missouri 64064 (816-358-7020)

dBase III+

Xerox Ventura Publisher

Lotus 123

DOS

Introduction to Computers

(mostly the seminars were for dBase and Lotus)

These were pre-packaged programs from AT&T training in Denver taught in a two or three day seminar format, mostly for AT&T employees. The seminars had three sections:

- 1) a lockstep set of exercises, then
- 2) a monitored set of specified exercises and
- 3) finally an open project based on what they just learned.

This was on contract at \$100/day.

Until I found a number of 1991 and 1992 invoices I thought the work with EOS was shorter and earlier but remember that I stopped it when I was hired full time by Preco in mid 1992. I was also surprised by the Lotus classes which I had forgotten about and the intro and DOS classes. Two Medsoft modification invoices tell me that I did some small programming work on it. I remember finding some screen capture images but, at the time, thought these were merely part of evaluating the software.

AutoScript – commercial software

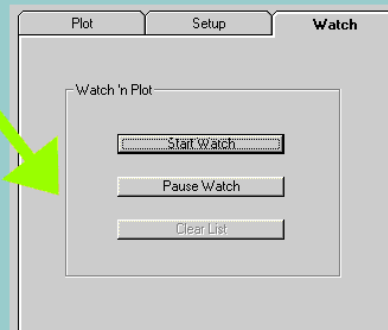
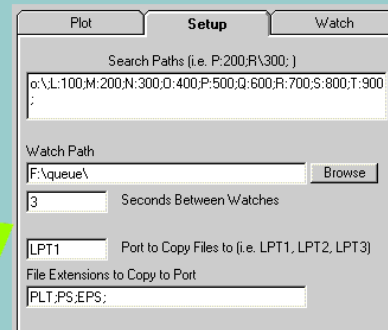
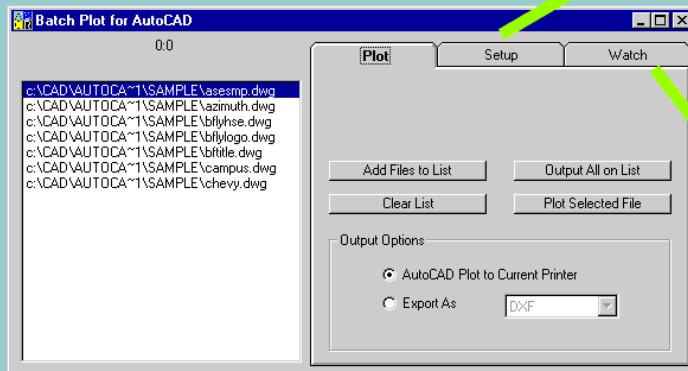
AutoCAD to PostScript conversion program

- 1989 - contracted to clean up their sales database (in Smart II, a local company later bought by Informix who were in turn bought out by IBM – it is where IBM “Blades” came from)
- 1989 - contracted to write the software manual for version 2 of AutoScript by Preco Industries which was then being written by a company in College Station, Texas in Borland C and named AutoScript 5.
- 1992 - full time with Preco, as software maintenance technician for the new program, debugger and phone support for customers.
- Wrote a program to convert their previous production program in COBOL into a FoxBase format. I did the full file conversion program. This included, later, a BOM (bill of materials) program to generate a list of materials in AutoCAD drawings of their machines (die cut presses).
- 1993 - began a beta test download web site for our selected AutoScript testers. This was in ASP and led to later web programming. At this point the web was new and our modems were just reaching 14.4 kbps over the phone line. Mosaic gave us a simple means of offering downloads. Before that we did modem-to-modem transfers.
- Wrote a network printer distribution program for our AutoCAD files. This was before the days of easy network printer access. This program watched for output files in a network folder then fed those files to the printer. The picture below shows three of the dialogs and has a short explanation in text.

Network Batch Plotter Utility for AutoCAD workstations.

This is the GUI version of an earlier DOS/text-based batch utility I first wrote in 1990 or so. This utility allowed all engineers in a shop to place their finished drawing files in network folders (“Search Paths”) watched by this utility in order to send the drawing files to the designated network printer by using AutoCAD to send the files to the printer as a PLT, PS or EPS file. (*plot file, PostScript file or Encapsulated PostScript file*)

The GUI version was written about 1994 or 1995 which is noticeable from the “LPT n ” port names.



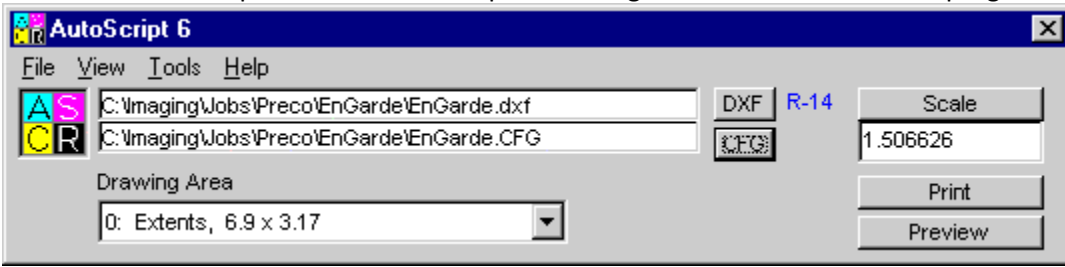
- 1995 - Started work on Windows GUI version of AutoScript as the programmer using Visual Basic. We called it AutoScript 6.
- Details below
- When the program was everything asked for by our beta testers but 10 times slower than the previous version I wrote an assembler program for direct file access which gave the program a processing speed 10-20% faster than the old program written in C.

- My rule from this was to make sure I was NOT using the fastest, coolest machine for development. Instead I've always since made a point of having a machine no faster than I can expect of most of my customers. If this was to be painful for anyone I wanted it to be painful for me first. That way I had a better idea of how our customers experienced it.
- AutoScript was discontinued in September 1998.
- Autoscript programming gave me a list of items I had to know about and use (I'm listing these off the cuff so far and may think of more later)
 - C (language)
 - Batch files and installation programs/disks
 - DOS BASIC
 - Networks
 - Visual Basic (language)
 - Assembler
 - AutoCAD
 - AutoLISP (language)
 - Installation programs (wrote program)
 - Copy protection (always a bit of a pain)
 - Embedding serial numbers (wrote a program to embed SN's in programs to customers)
 - Fonts (one of our advantages were PostScript fonts, not stick fonts)
 - more information that I recall about fonts such as foundries, Italic versus oblique, serifs, decorations, matching PS to on screen preview for size and position, etcetera)
 - bounding boxes
 - insertion points
 - cap heights - flattened and rounded
 - line heights compared to AutoCAD heights and line separations
 - descenders
 - strings in PostScript versus separated charactes in Windows
 - point measuring systems, PostScript (72 points per inch) versus typesetters' in the US, England, etc. (72.272 points per inch), 12 points per Pica. Points varied a good deal in size from the 1700's through the late 1800's after which they became more standard.
 - Scaling sizes and stroke width changes (thicker for smaller, thinner for larger) and shape hints
 - device resolutions
 - PostScript (language) our code converted AutoCAD DXF files to Postscript code
 - EPS and PS - Encapsulated PostScript and PostScript
 - had a 3.5 kb PostScript header file (Windows' PS header was > 100Kb)
 - screen printing – Preco developed and still sells automated screen printers
 - dye sublimation printing – early attempt at printing, changed to screen printing

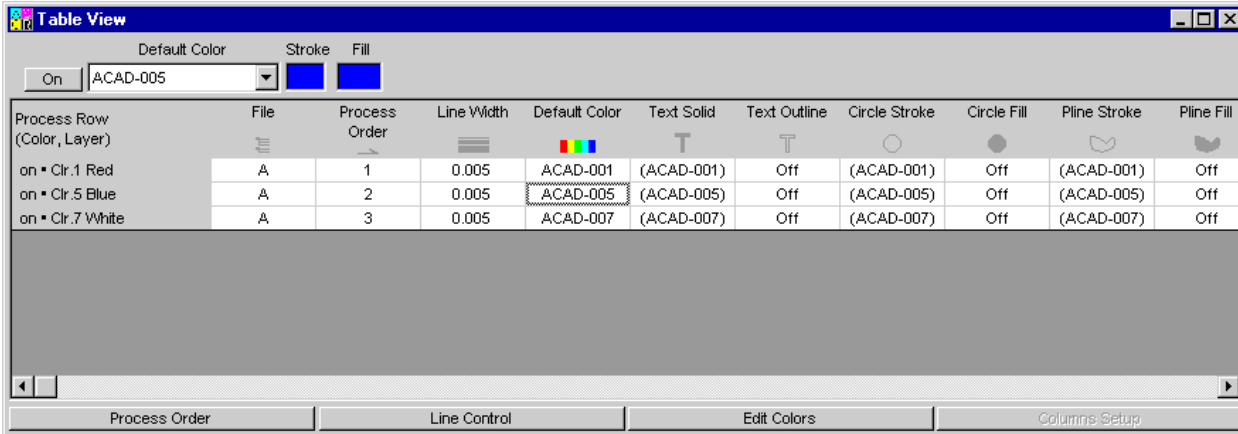
Preco also developed at laser cutter which I programmed using a movement language with a DXF reader derived from the AutoScript AutoCAD parser I wrote.

- laser cutting using an AutoCAD derived driver file
- motion control with varying velocities depending on straightline or curves

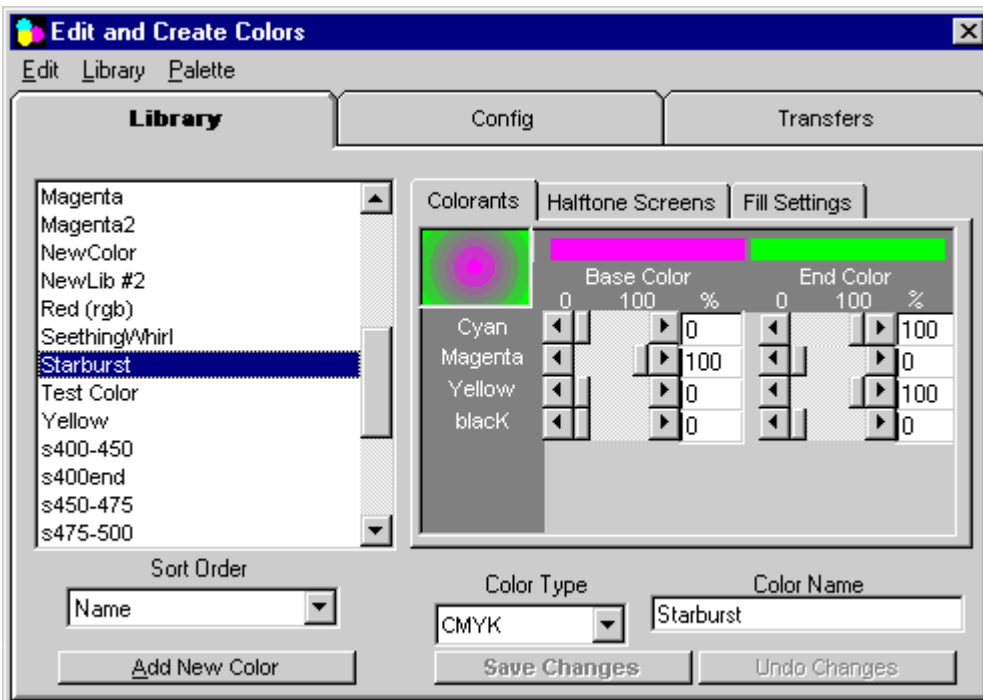
Below are screen captures from AutoScript 6 showing some of the detail in the program. This is my programming.



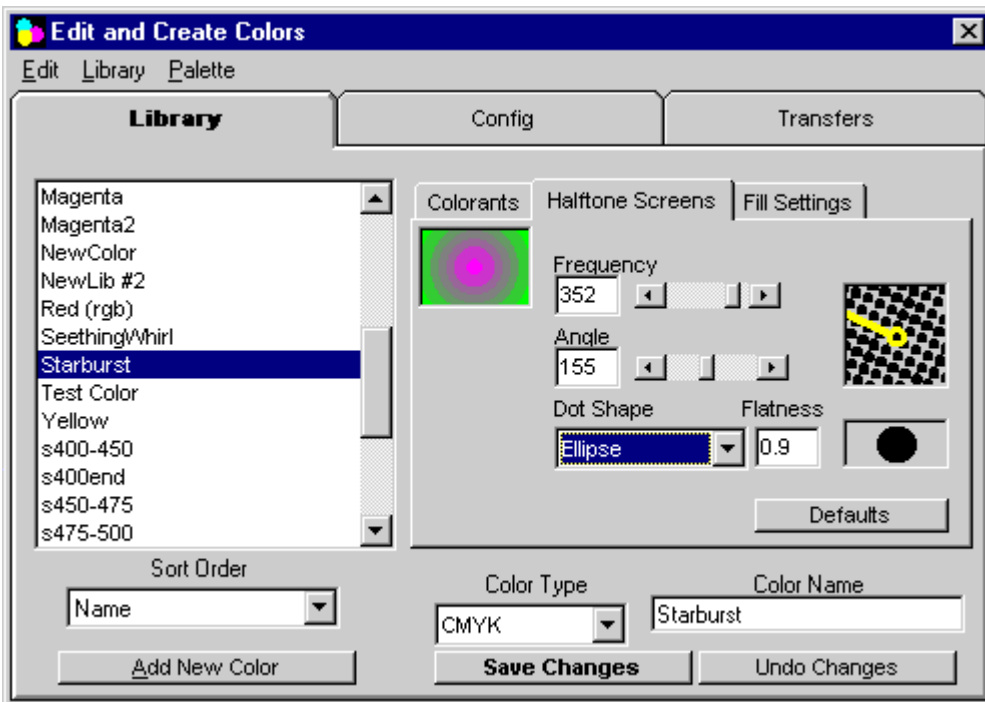
The main opening program ribbon along the top.



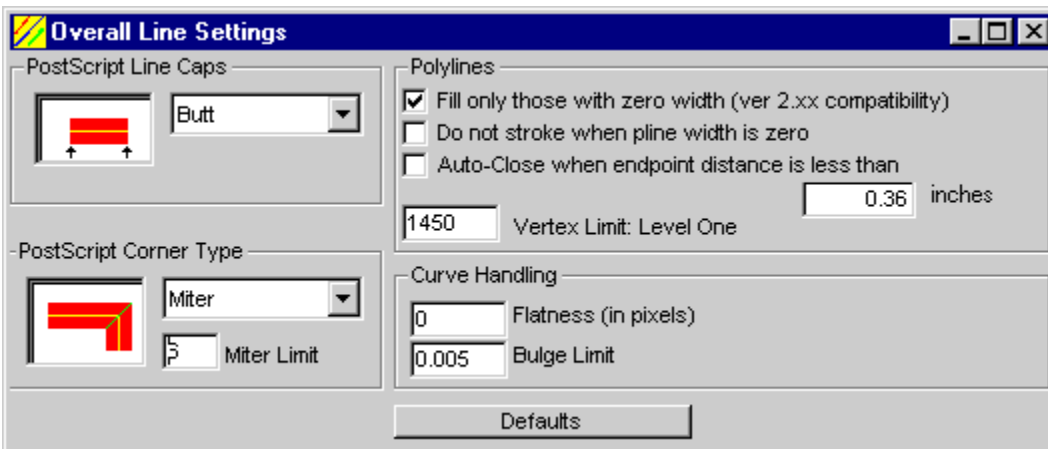
The table view showing AutoCAD layers used at colors (think screen printing) with the colors assigned to various entities on the color layers



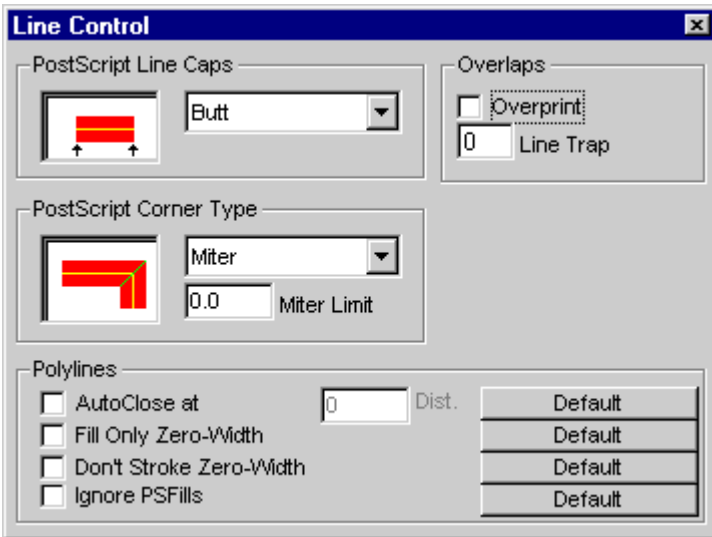
Colors are created for the output and here is the screen where this occurs. In this capture you are looking at a graduated color. Flat colors only adjust the "Base color" while any change in the "End Color" turns it into a graduated fill.



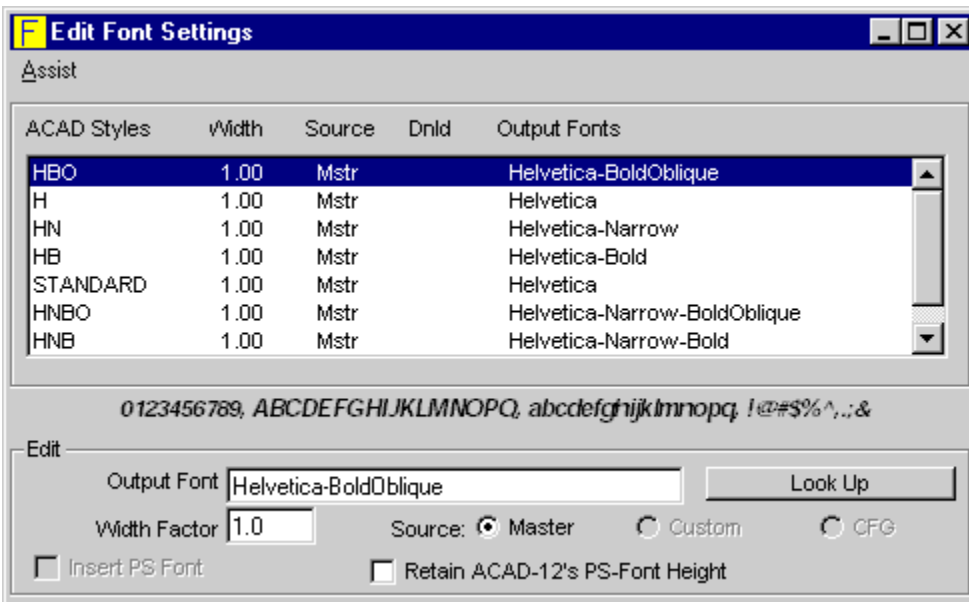
In addition to the colors as such you need a way of controlling the halftone dots on the printer. This gives you intimate control over the very size and shape of each dot as well as the angle of the "screen" and the frequency (number of halftone dots per inch).



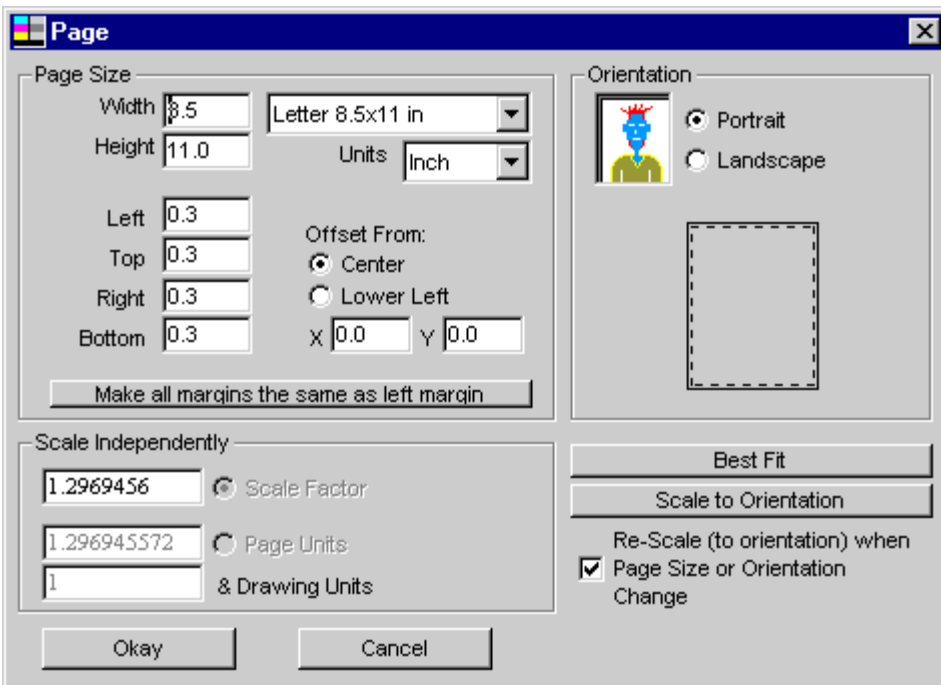
Setting for all lines in the file and the way the lines end and the corners are made.



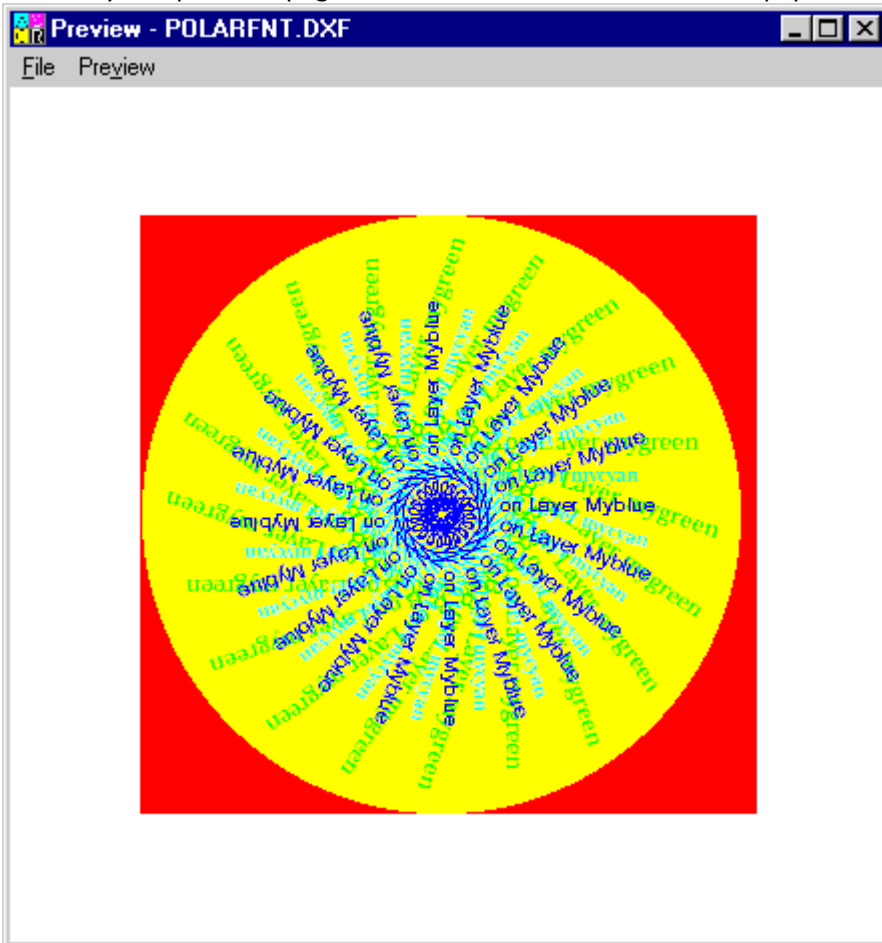
The same setting on a color layer which overrides the overall settings.



One of the initial features of AutoScript was using PostScript fonts rather than the stick-figure type fonts typical of CADD programs. We had our own set of custom designed fonts used for display in the AutoCAD window to show the effect of our final PostScript output.

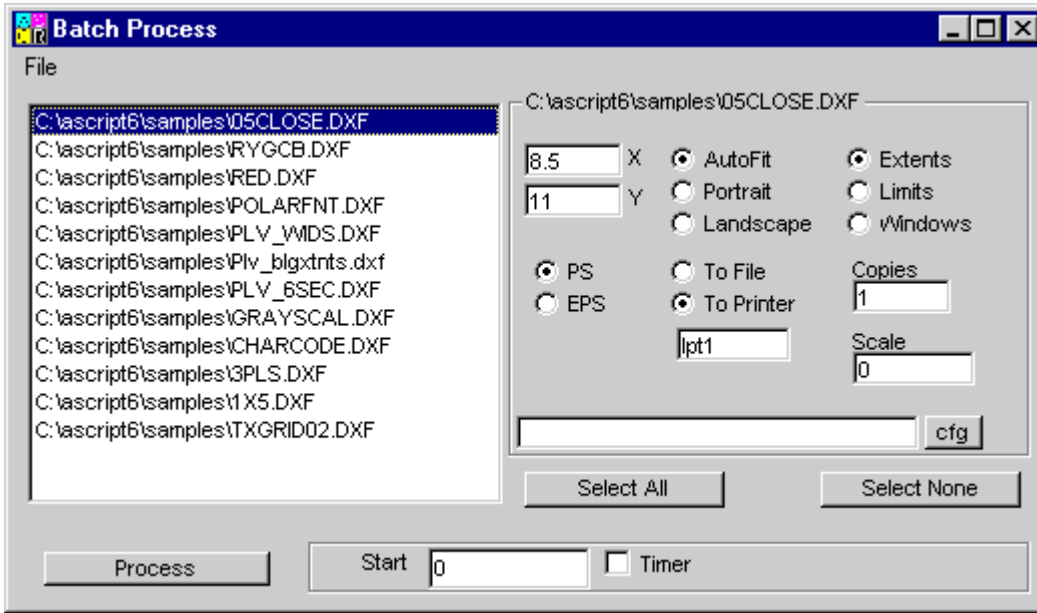


This is my setup for the page orientation and size related to the paper output size. For EPS files the scale is independent.



This is the preview window showing how the file will look when processed in AutoScript. All of this is done in equivalents for Windows. For example, to get a font sized properly you first have to determine a relative size for the font, set a font in windows, measure it and determine whether it will work. In small point sizes you may need to try more than once. Also, in PostScript you declare a full string and every character is in the right place. In Windows you have to pull apart the string into the characters and position each character in a its right place.

Among other things I needed to control was the shape of circles. Seems obvious but a sine function is needed depending on the pixel width (generally 1.33) in order to keep circles from looking like ellipses.



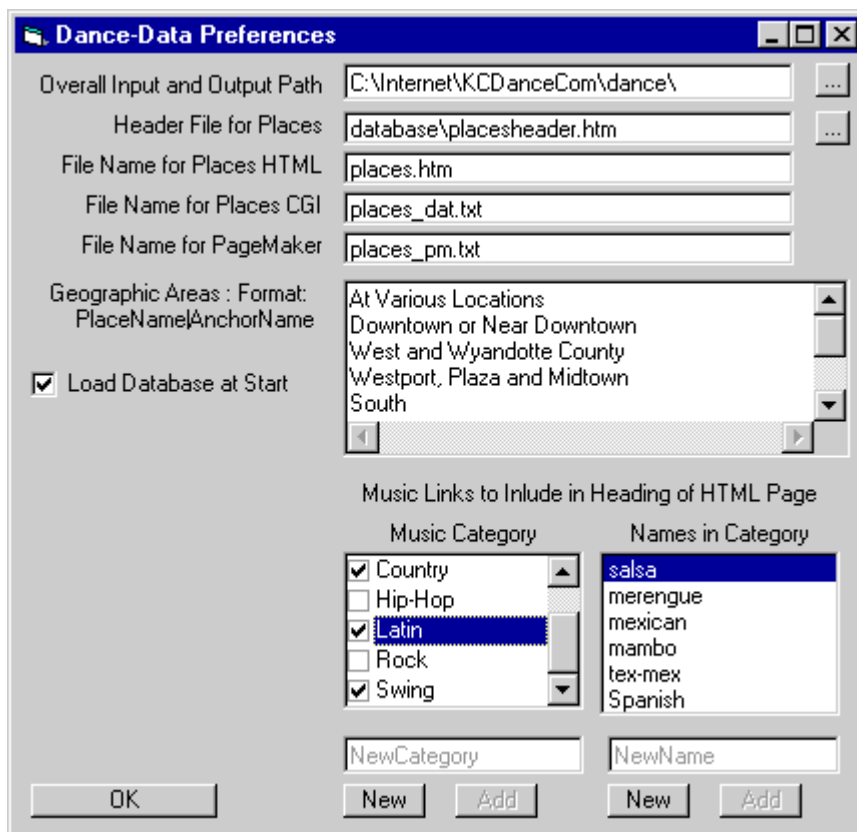
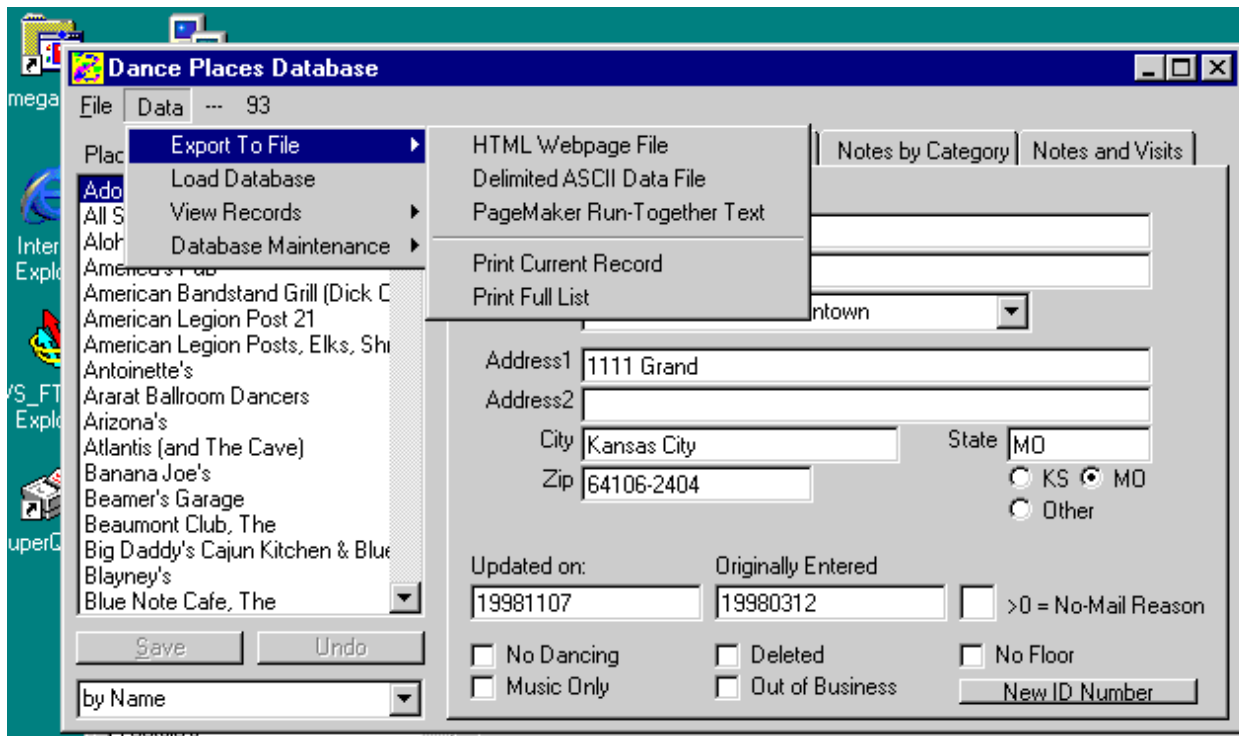
You could process DXF files (both text and binary) by either loading them into the batch window or loading an AutoScript batch file into the window. This supported the same batch files used to run AutoScript Version 5.xx.

Each file listed for processing can have separate settings including different config files. Any setting that is changed when more than one file is selected in the list box changes that settings for all selected (highlighted) files.

The Timer option allows you to set the starting time for the batch process. This way you can start the processing long after you leave work and after other scheduled evening work, such as backups

My KCDance Site – www.kcdance.com

As with everything else, my life is an integration. In the case of my dance website I originally wrote my own database program to enter events and add a calendar to the site. Later I just used the online database with ASP. This makes it easier for anyone to add events to my calendar.



These two captures are from the first couple of years, before I changed to using Access as my site database.

To prevent a need for more than 20 users (the limit of Access at the time – the limit is now 200-300 simultaneous users) and for overall lower site load, especially database load, I generate a set of static pages at the first user hit of each day. When a visitor comes to my site just after midnight, I first generate a set of updated static calendar pages for that day, then show the new pages. This hugely reduces server load and speeds up response times.

My photo, resume, gallery site

www.MikeStrongPhoto.com

This is a further reference for a lot of information on me. The code is all mine including the font download code which gives the fancy thin font used for the hed.

The slide show by default, and by topic selection as well as the topic pages of pictures are my home-spun javascript code in action. Just go look. If you are a coder you will see this page as code decisions. Mostly this is lightweight code. I really don't like using something like J-Query as I consider it to be badly over-coded with too many hidden dependencies. I like my code as small as possible and also my download page weight.

1999 - research assistant, lecturer

UMKC for BIT (Bachelor of Information Technology) program in the former CSTP (Computer Science and Telecommunications Program).

The job, along with Nicole English, was the creation, web design and maintenance of the new online program, very new at the time. We were the "web monkeys." We put that site together.

While there we (Nicole and myself) created the IT-222 Multimedia course which is still going. It was started as a combination classroom (from primary development) and web course, always with an eye toward online usage.

This lasted through 2000 when the two-year grant ran out.

American Crane & Tractor Parts Inc.

2200 State Line Road
Kansas City, KS 66103
913-371-8585
www.actparts.com (ACT)

From June 2001 through March 14, 2003

Web and E-Commerce programming and documentation.

Extensive work on e-commerce at the international warehouse level running IIS with ASP and Sql Server running together to generate daily orders from resellers anywhere from several line items to several thousand line items per order, rather than the more typical shopping-cart applications.

When I was brought on board consultants were about to sign-off on a large revision of their warehouse system based on Microsoft's Site Server (long ago replaced by MS Commerce Server). This includes consideration for alternate part numbers, different warehouses, shipping consolidation to minimize costs and international shipping documents.

- The system generated web pages which with too much code, therefore too slow for their customers across the world (such as Johannesburg in SA and Bangladesh).
- I reduced the page weight to eight and a half percent of the size. This helped but more was needed.
- I then designed a light front end expanding at the client side (using Javascript) which again dramatically reduced traffic loading.

In addition

- I re-did the front-end general company web site for both external use and internal use,
- including a simple company-wide help documentation system. The company system includes administrative maintenance tools for many of the database and text-based changeable items.
- The last task I left before finishing the assignment was to re-design the company's front-end web site complete
- with multi-lingual capabilities and with an administrative interface.
 - The admin interface allows the web-master to add help files, to catalog the flyer archive for use on the web, and to keep track of the current status of all translations on the site.
 - Along with this was an email generator which allowed their marketing person to create and send HTML email flyers to a list and to keep a record of responses and then add those flyers to the archive.



Notice this front page includes a login for wholesale customers. We only served wholesalers. The photo is one of mine, taken for their catalog. The entire page and the database were served directly to the web from our own server over a T1 connecton.

Ken No Work Stacy - American Crane Order Entry System - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites History Mail Print Edit Discuss SurfSaver Translate

Address http://209.176.131.24/weborder/Default2.asp?mscssid=C000001:ACTP_C000001

American Crane Order Entry System - Ken No Work Stacy

Quote History Quote Shipping Place Order Order History Help

Sub Total: \$9,636.44

Quantity Item List Price Total: \$10,537.52 Quote #: 1000060595

Total Weight: 579.2/262.7 PO REF:

Line	Qty	WHSE	Part Number	Description	Origin	Price	List	Wt lbs/kg
6	1	01	4S6137	Stud (Mosca)	IT	\$6.60	\$7.14	0/0
5	1	02	9Y7212	Piston As (Clevite) 2W0865	US	\$56.71	\$171.63	6.6/3
4	2	01	2W6000	Liner (Clevite)	US	\$107.42	\$116.20	17.8/8.1
3	3	01	8N1187	Cyl Head	IT	\$3,119.35	\$3,374.57	179/81.2
2	1	04	0L1026	Plug	TR	\$0.12	\$1.32	0/0
1	1	04	0L1026	Plug	TR	\$0.12	\$1.32	0/0

Warehouses: 01=Kansas City, KS 02=St. Louis, MO 04=Knoxville, TN

Done Internet

This is a wholesale page showing items in a sheet view. Remember, we sold to wholesalers who were looking for spreadsheet-like listings, not shopping cart pages. The data was loaded into a javascript data text file and expanded into HTML code by javascript on the client side, which is what you see here.

This could have anywhere from hundreds to a couple thousand table lines (data rows). It allowed sorting by column and placing orders for multiple items at a time, including business rules such as discounts for specified customers. It would search for part numbers, and produce alternate part numbers as needed based on stock and part upgrades.

Once an order was placed where it shipped from (separately from different warehouses or transshipped to one warehouse for combined shipping, cheaper for international) and any export documents needed were produced.

1983 UMKC PACE

Was asked to create a database course in entry level Microsoft Access.

I put the initial course together in a week and a half including the software to run it with grading and quizzes.

Lecturer/Online Teacher for UMKC's PACE

I started with PACE by picking up a web-taught database course. I developed the curriculum and the teaching technologies for this course based around early concepts of what used to be called "programmed learning."

Included in the technology (delivered via ASP and PHP at the server) is a Javascript quiz/exam application. This is designed not to trip up students but to serve as a teaching machine, drilling students until they get the answers right, with the ability to switch over to a stored-grade exam machine when ready.

I and my partner, Nicole English, pitched and developed additional courses in video non-linear editing, website construction, web writing and media streaming. The video course is designed for low-cost access to students who do not have access to a lab and are taking the course from their homes or offices where they have Windows software on desktop or laptop.

I produced the text pages and the illustrations to go with them as well as a couple of animations showing input. Here are a few examples starting with Microsoft Access illustrations.

The screenshot shows the Microsoft Access interface with the 'Inventory' table in design view. The 'DateLastSale' field is highlighted in yellow. A red arrow points to the 'Date/Time' data type dropdown menu at the bottom of the field's column, with the text 'Cursor Here' next to it. Another red arrow points to the 'Field Properties' task pane at the bottom, which is open to the 'General' tab. The 'Format' dropdown menu is open, showing 'Short Date' selected. A red arrow points to the 'OK' button at the bottom of the task pane. Red text annotations explain the process: 'You can set field properties any time your cursor is on a field's line. Go to the pull down list menu at the bottom and select the modifier for that field.' and 'then click the OK button'.

Field Name	Data Type	Description (Optional)
ItemID	AutoNumber	
Item	Short Text	
Tags	Short Text	
Description	Short Text	
Cost	Currency	
Supplier	Short Text	
SupplierID	Number	
Selling Price	Currency	
DateOfPurchase	Date/Time	
DateLastSale	Date/Time	
SKU	Short Text	Stocking Unit
OnHand	Number	quantity on hand

Field Properties

Property	Value
Format	Short Date
Input Mask	General Date
Caption	Long Date
Default Value	Medium Date
Validation Rule	Short Date
Validation Text	Long Time
Required	Medium Time
Indexed	Short Time
Indexed (No Duplicates)	No Control
Indexed (Allow Zeroes)	No Control
Indexed (Allow Nulls)	No Control
Indexed (Allow Zeroes)	No Control
Indexed (Allow Nulls)	No Control
Text Align	General
Show Date Picker	For dates

And a few Excel (spreadsheet) example illustrations.

The screenshot shows an Excel spreadsheet titled "Investment Growth". The formula bar at the top displays the formula $=C6+B7$. Red and blue arrows point from the formula bar to the cells in the table below. The table has columns for "Interest" and "Balance".

	Interest	Balance
0		\$1,000.00
1	\$ 100.00	\$1,100.00
2	\$ 110.00	\$1,210.00
3	\$ 121.00	\$1,331.00
4	\$ 133.10	\$1,464.10

The screenshot shows an Excel spreadsheet titled "LoanPaymentCalculator.xlsx - Excel". The formula bar at the top displays the formula $=PMT(B4/12, C4*12, A4)$. Red arrows and text explain the formula and its result.

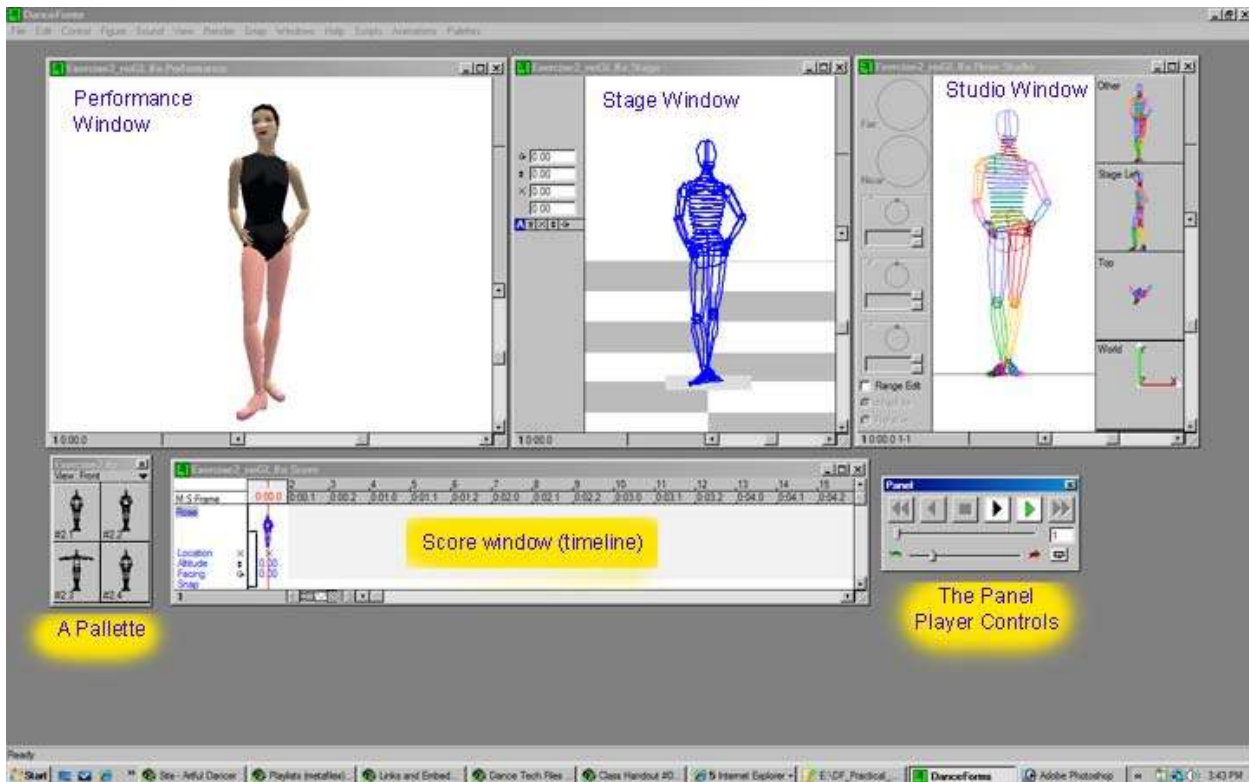
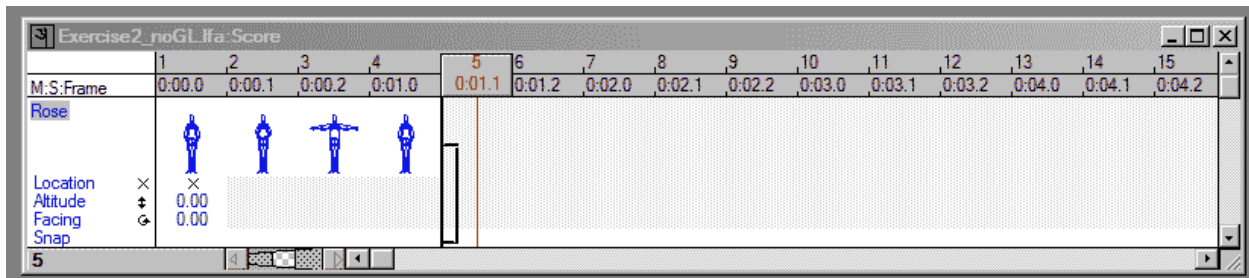
	A	B	C	D	E	F	G	H
1	Loan Payment Calculator							
2								
3	Principal	Interest Rate	Years					
4	\$25,000.00	4.50%	4					
5								
6	PMT:	(\$570.09)						
7								
8								
9								
10								
11								

Sadly, the PACE program was killed after the summer of 2018. That was the last session I had PACE classes. They were online. Someday I should write the story. It is one of academic intrigue, departmental jealousy, brain tumors and a hired gun making his bones then leaving for a job with the accrediting company which he persuaded the university to hire for a lot of money.

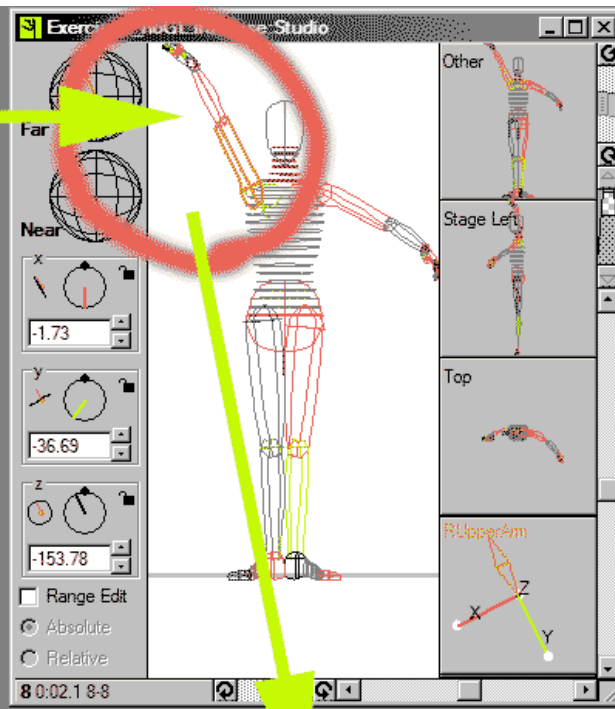
Dance Animation – Conservatory class

Nicole and I had a class in dance animation with the conservatory. This was teaching an application to dance students to animate their choreography. We did this both in the classroom and online. The dance students have a very challenging set of schedules often in rehearsals and working shows at the same time they are in studying. This meant what is now called a “blended” course.

The course had to be tailored to students who would have to miss a number of classes. But we kept it together, provided extra lab sessions with help and the results were gratifying. Even those students who thought the computer was not friendly with them managed to pull through, sometimes way beyond expectation. The final project was a full out choreography, on the computer. Because they knew their own bodies they could relate that to the computer. We just supplied the means to get there. Here are some illustrations from that course. I produced all the illustrations and online instructions.

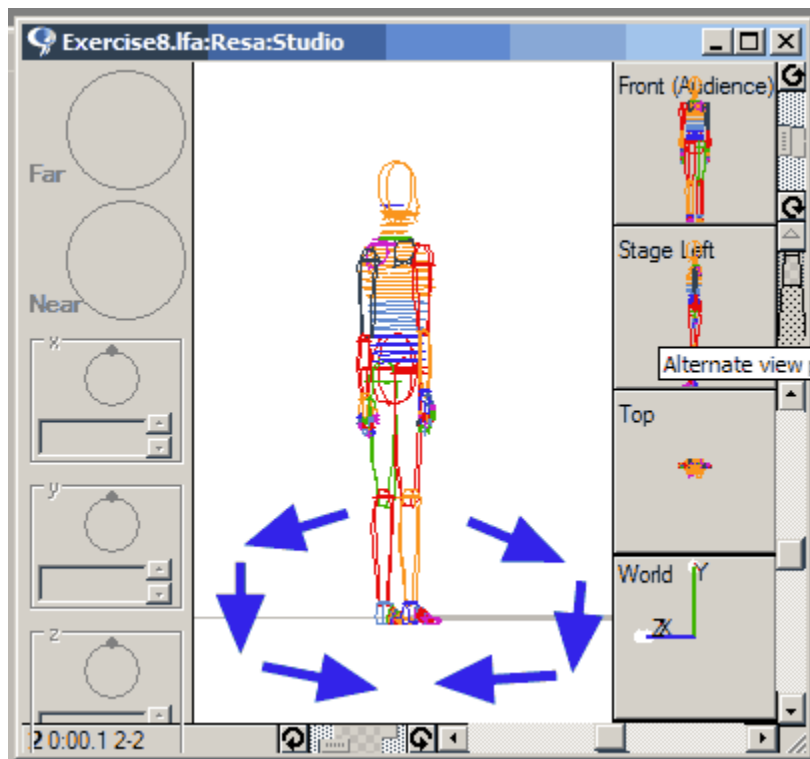


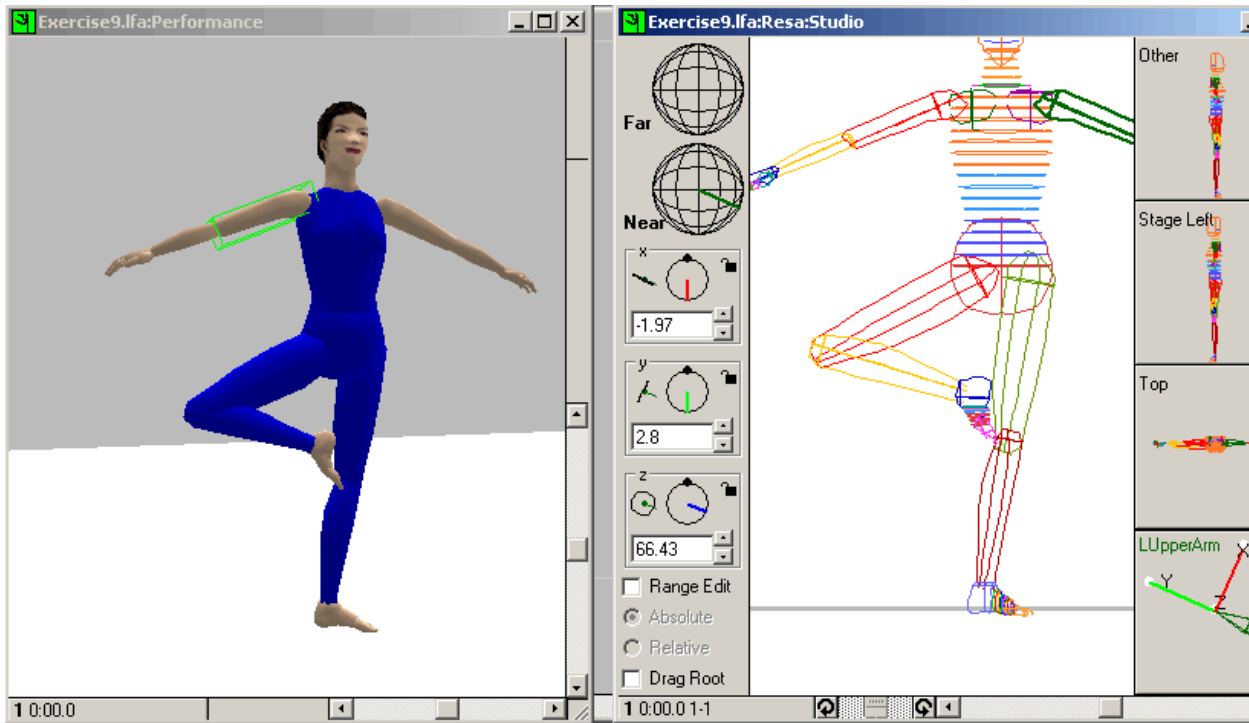
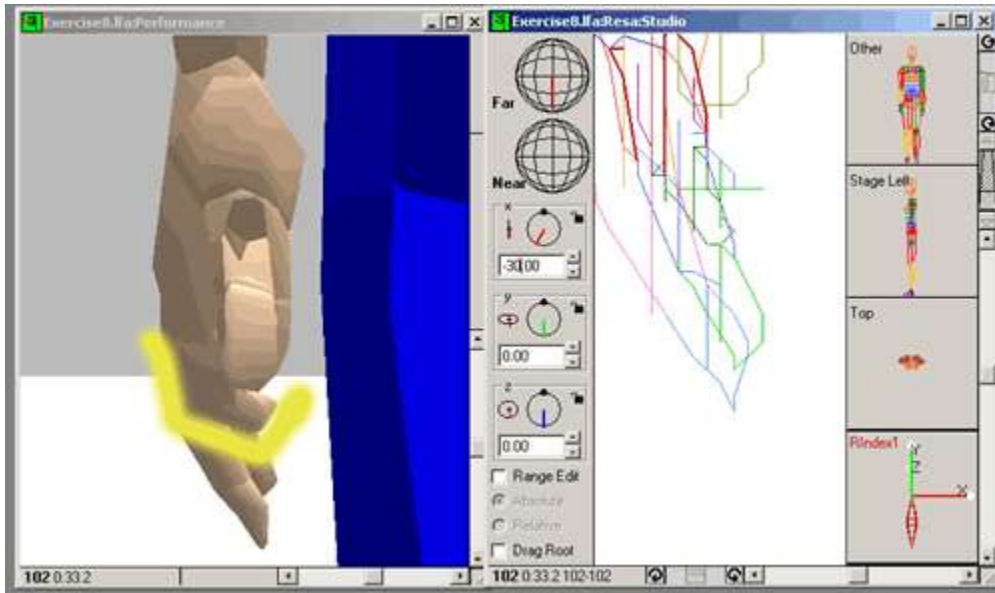
Making any change, such as moving the arm in the studio window immediately creates a new keyframe on the score (the timeline). A change marks this particular frame as a location with specific positioning. All other frames on the score show as blank. The computer will fill these in with object positions calculated at the distance between the last keyframe to the next keyframe.

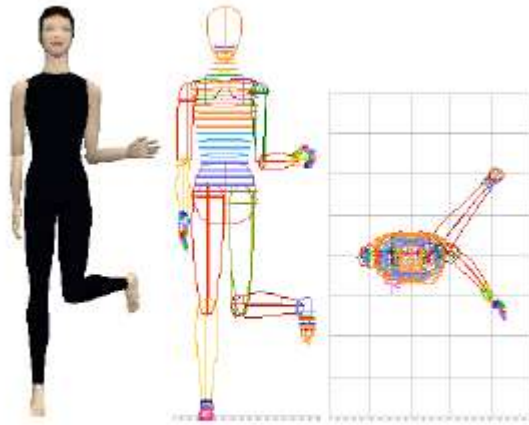


Exercise2_noGL.lfa:Score

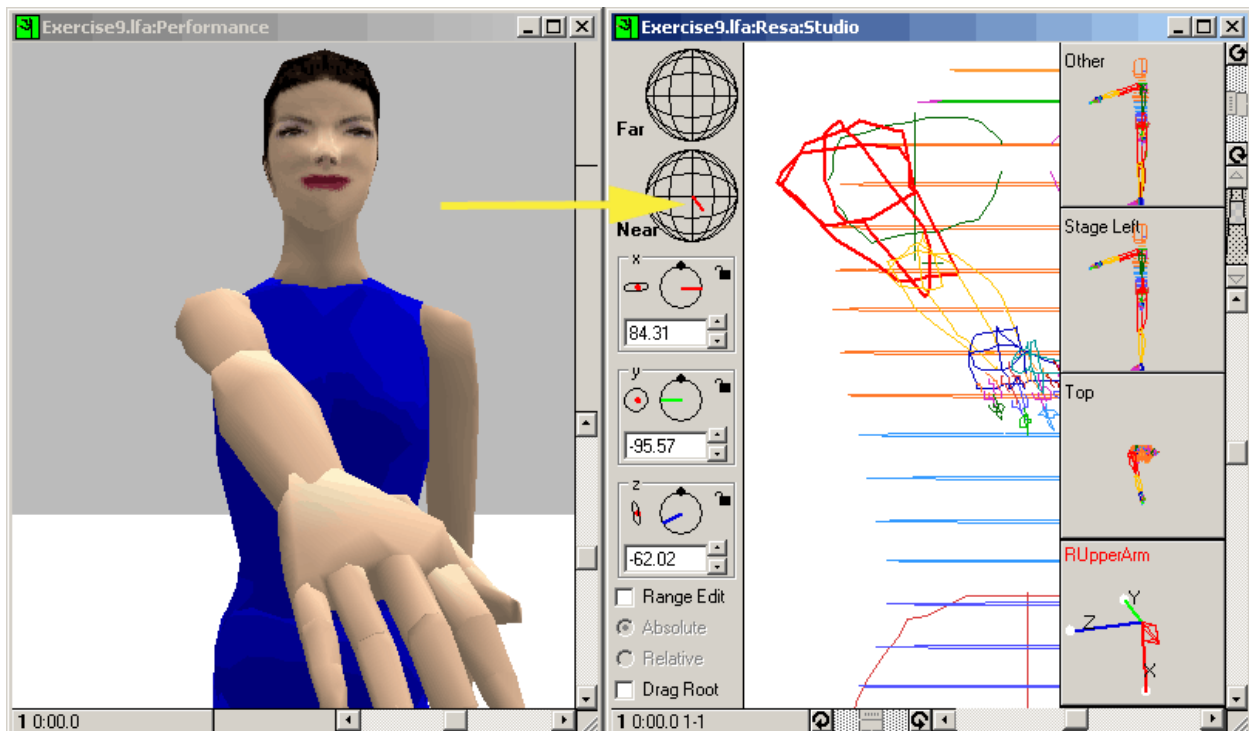
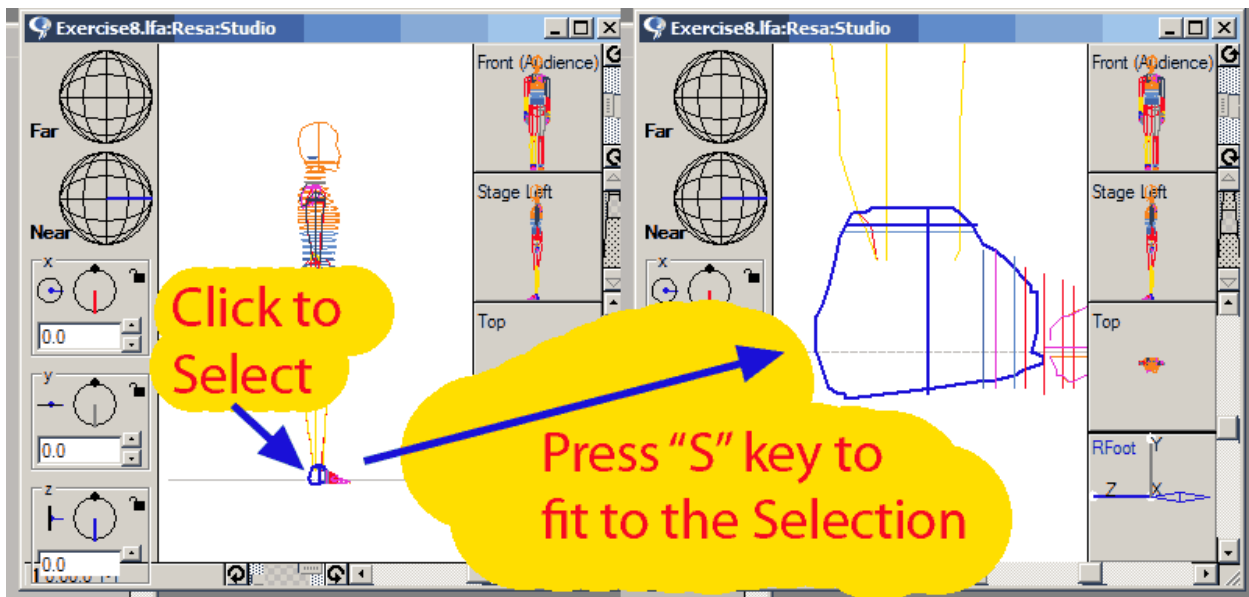
	1	2	3	4	5	6	7	8	9	10	11	12	13
M:S:Frame	0:00.0	0:00.1	0:00.2	0:01.0	0:01.1	0:01.2	0:02.0	0:02.1	0:02.2	0:03.0	0:03.1	0:03.2	0:04.0
Rose													
Location	X	X											
Altitude	↑	0.00											
Facing	G	0.00											
Snap													
8	8-8												







L Upper Arm Y = -40
L Upper Leg Y = 40





Class-purchases: Javascript application for City in Motion

When Nicole was school director of City in Motion they needed a way to purchase classes online, via PayPal. They also needed one which would work either online or in the office on a separate, non-internet connected machine.

So, I wrote a Javascript application within a single HTML page which applied discounts and class specials to a total eventually leading either to a locally printed page or to a PayPal finish.

When the invoice was finally ready online it was sent to an ASP page on an external site for a PayPal payment and to save data files recording the items (classes) purchased. The local page printed an invoice which was then paid at the front desk, directly.