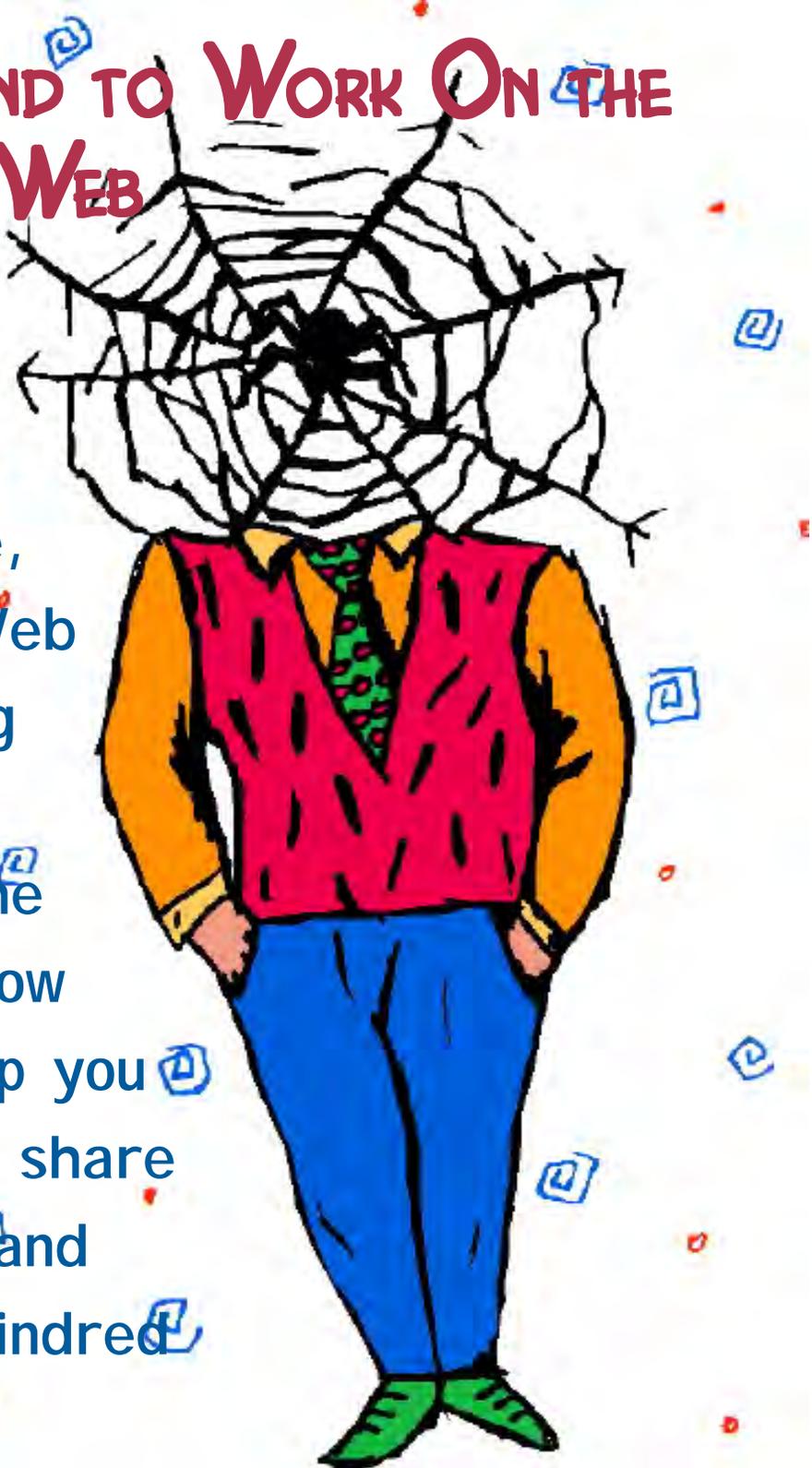


FEB 2005

Volume 16, Issue 2

PUT YOUR MIND TO WORK ON THE WORLD WIDE WEB

At our next meeting, DACS super-geek, Mike Kaltschnee, will show how Web logs are bringing small-town democracy to the Internet, and how blogging can help you use the Web to share your creativity and cultivate your kindred spirits.



President's File



PRESIDENTIAL
RAMBLINGS
VERSION 2.10

Changes, they are
a'comin'

Those of you who read this column regularly know that I normally write about just about anything and everything but very seldom about DACS. Well, this is one of those rare occasions where there is real news to write about our club. As I announced last spring, this is my last year as your president. Don't get me wrong, here. This is a fun job. But I don't feel that it's healthy for an organization like DACS to rely on one person for leadership over an extended period of time. If we want a dynamic organization, change is not just good, but required.

Your board of directors has chosen our club officers for next year. Jeff Setaro, who has been our Programs VP, will become President. Jamie Yates, who joined the board this year, will take over the programs duties. Jeff has also been our Webmaster. I will become "more involved" with the DACS web site and I will continue to write for the newsletter. Larry Buoy, who has served an extra bonus year as our Secretary has asked to be relieved. We are working on recruiting a new Secretary. Charlie Bovaird will continue as Treasurer. The other board members are: Howie Berger, Marc Cohen, Anna Collens, Richard Corzo, John Gallichotte, Bill Keane, and Bruce

Preston. All of these board members are involved in more DACS activities. Howie is working on our association with Science Horizons. Marc continues to help produce our (award winning) newsletter. John, Anna, Richard, Bill and Bruce all run special interest groups (SIGs).

Other positions include Allan Ostergren as Newsletter Editor and Gene Minasi, Facilities VP.

Join the Website Committee

When we first started the DACS website, we had to "prove" that we warranted an "org" domain name. The Danbury Library hosted our web site on their server as part of the Danbury Community Network. We have come a long way since then, but I would like to return to something we had back then: the Website Committee. This was not a place to learn web site development, per se, but rather a place to exercise and build the skills that you had. I would like to resurrect the committee. If you would like to help, just let me know.

Priorities

Right now, as I write this, I'm in far northern Vermont at the Craftsbury Outdoor Center, a really great cross-country ski center. In January one must travel north—a lot—to find good snow. This year the snow cover is a little thin after all that rain earlier this month. The disgustingly hot weather we experienced last week in Danbury extended to north of the Canadian border. Ok, I'm getting to the computer part... The lodge here provides great meals and one computer with free Internet access. If all goes well, I'll complete this column on my laptop, copy the file to a USB thumb drive, plug that into the "communal" computer and attach the file to an email to Allan. Now that's what I call balancing priorities!

Pet Peeves

You might be surprised to learn that these computers we use are not perfect. One of the imperfections is the placement of the caps lock key. IF YOU FIND YOURSELF TYPING LIKE THIS, you have been a victim of this infuriating key placement. It might surprise you to learn that there are several web site devoted to hatred and loathing of the caps lock key. One site that actually offers a solution is anticAPSLOCK.com. Check this out and see if one of the solutions is right for you.

—JIM SCHEEF

DACSPREZ@DACS.ORG

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Applications & Hardware to enhance *dacs.doc* are welcome.



Don Neary
APCUG Liaison
203-746-5538

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RESOURCE CENTER: (203) 748-4330 **WEB SITE:** <http://www.dacs.org>

HelpLine

Volunteers have offered to field member questions by phone. Please limit calls to the hours indicated below. Days means 9 a.m. to 5 p.m.; evening means 6 to 9:30 p.m. Please be considerate of the volunteer you are calling. HelpLine is a free service. If you are asked to pay for help or are solicited for sales, please contact the dacs.doc editor; the person requesting payment will be deleted from the listing. Can we add your name to the volunteer listing?

d = day **e** = evening

Program	Name	Phone #	
Alpha Four	Dick Gingras	(203) 775-1102	(d e)
APL	Charles Bovaird	(203) 792-7881	(e)
C/UNIX/ObjC	Kenneth Lerman	(203) 426-4430	(d e)
Clipper	Dick Gingras	(203) 426-0484	(e)
Dbase/DOS	Alan Boba	(203) 264-1753	(e)
DOS	John Gallichotte	(203) 426-0394	(d e)
Electronics	Andrew Woodruff	(203) 798-2000	(d e)
Focus	Jim Scheef	(860) 355-0034	(e)
Hardware	John Gallichotte	(203) 426-0394	(d e)
Interface-Instrumentation	Andrew Woodruff	(203) 798-2000	(d e)
Microsoft Access	Dick Gingras	(203) 426-0484	(e)
Newdeal	Marc Cohen	(203) 775-1102	(d e)
Paradox	Alan Boba	(203) 264-1753	(e)
PhotoShop/Dreamweaver	Anna Collens	(203) 746-5922	(e)
Statistics/Data Analysis	Charles Bovaird	(203) 792-7881	(d e)
SQL Server	Chuck Fizer	(203) 798-9996	(d)
Viruses	Jeff Setaro	(203) 748-6748	(d)
Visual Basic	Chuck Fizer	(203) 798-9996	(d)
HTML/Java	James Costello	(203) 426-0097	(e)
Windows	Nick Strother	(203) 743-5667	(e)

Directors' Notes

A REGULAR MEETING of your Board of Directors was held at the Resource Center on January 10, 2005. Present were Messrs. Berger, Bovaird, Cohen, Corzo, Keane, Preston, Scheef, Setaro and Yates. Also present was Larry Buoy.

President Jim Scheef presided and Secretary Larry Buoy kept the record. Minutes of the last meeting held on December 13, 2004 were approved.

Treasurer Charles Bovaird reported current cash assets of \$15,708.40, consisting of total bank and postal accounts in the amount of \$15,617.68 plus postage on hand of \$90.72. Subtracting a liability of prepaid dues in the amount of \$6,414.00 left a net equity of \$9,294.40. He also reported current membership of 361.

The normal discussion regarding future General Meeting programs resulted in the following: for March 1, Digital Imaging by Bruce Preston; for April 12, Jeff Setaro will approach the local Apple Store for a possible presentation or, in lieu thereof, a program on the "Smart Home" concept; for May 3 and June 7, respectively, Jamie Yates has obtained a commitment from DACS members Jack Scully for a program on Genealogy and Parker Moreland for a program on Astronomy. In addition, Jeff Setaro expressed the possibility of obtaining Gene Barlow for the October slot for a program on Acronis and White Canyon software, his new affiliations.

In addition, the possibility of a program on Voice over Internet Protocol from either local cable providers or such providers as Vonage was explored. Due to the fact that our local cable providers are segmented and non-competitive, it was deemed that a provider such as Vonage would be a better choice for a program on the technology. Jeff Setaro volunteered to try to establish contacts within that industry.

Howie Berger agreed to attempt contact with Science Horizons to determine what categories of assistance with its projects are needed prior to soliciting the DACS membership for volunteers.

Charlie Bovaird reported on his progress in initiating a "Math" SIG with six interested members.

Jim Scheef announced that there would be a Trenton Computer Festival at the College of New Jersey (formerly

DIRECTORS' NOTES, Continued on page 4

Meeting Preview

Give the Internet a Piece of your Mind - with BLOGS

A NEW PHENOMENON shaking up the Internet is the growth of Web logs, or BLOGS. There are more than 8 million Web logs and nearly 2,000 stories are being posted each minute. What is a blog? How do you create one? Why are they important? How do people make money operating a blog?

Blogs have become a journalistic force, bringing down Trent Lott, Dan Rather, and providing unique coverage of the recent Tsunami disaster.

Is this a new form of journalism or the latest personal Website fad?



These questions and many more will be answered at the February meeting by Mike Kaltschnee, a DACS member, who owns and operates several Blogs. Mike will share his experience and demonstrate the tools and techniques to help you understand the potential of this exciting new technology.

The meeting will be held at Danbury Hospital auditorium as usual at 7.00 p.m., and is open to the public. Following Random Access and club announcements, the Microsoft presentation will start promptly at 8.00 p.m.

Directors' Notes, Continued from page 3

Trenton State College) on April 15 through 17 and that a link thereto should be established on the DACS Web site. In addition, Jim stated that he had received an email from the organizers of C3 Expo, to be held June 28 through 30 at the Javits Center in New York City, soliciting DACS participation. Jeff Setaro agreed to contact the promoter (Bruno, L.L.C.) for details.

Bill Keane reported that he had investigated software requirements for use of the Linux server at the Resource Center as a mailing list server. With Mandrake's product still in the development stage. Bill reported he had rummaged through his stock and found older versions of both SuSe and Novell server software which would be installed for assessment purposes prior to any purchase.

At this point, Jim Scheef left the meeting, Vice President Jeff Setaro assumed chairmanship of the meeting and discussion was limited to possible candidates for election as officers of DACS to begin new one-year terms commencing April 1, 2005.

—LARRY BUOY

Meeting Review

Cellular Wireless Development and Status 2005

By Charles Bovaird, Jr.

JASON J. CANTY OF Verizon Wireless, a ten-year veteran in telecommunications, must have hit a chord with our meeting attendees as our January meeting ran over an hour and a half. There were plenty of questions from the floor as Jason explained the evolution of wireless telephony. Three technologies are used in the design of cell phones in the USA. Verizon and Sprint use CDMA. IS-136 TDMA is used by AT&T, and GSM is used by Cingular. Some older technology analog cell phone systems are still active in the USA. Each technology is not compatible with the others. The location of technology hardware on cell towers determines the geographic areas of cell phone coverage and these differ by company. Each technology has its benefits and shortcomings, but the



more robust solution is CDMA and its next generation CDMA2000 or CDMA2k.

The GSM technology is used in Europe, and is not compatible with systems used in the USA. (See author's note at end of this article.)

Jason offered the following when planning to purchase a new cell phone:

(1) Does it provide the geographical coverage you require? This can only be achieved by physically taking the candidate cell phone to the various environs you expect to use it in. Most companies will allow a fifteen-day trial test period for this purpose. Where this is not possible (i.e. you don't plan to go to Florida during the trial period), you are stuck with the promotional description of cell phone coverage offered by the com-

pany where you plan to purchase the cell phone.

(2) Does it have the cell phone features you plan to use such as text messaging, picture messaging, etc.

(3) Price of Cell phone and service contract taking into consideration all issues affecting your costs over the contract period.

(4) You are likely to replace the phone for one reason or another within three years (authors estimate), at which time you will have the opportunity to plan the next cell phone purchase all over again.

Jason topped off his presentation with some cell phones he had with him, along with web page displays of cell phones, at www.Verizonwireless.com. After the formal presentation Jason stayed around to answer more questions on a one-to-one basis.

Author's note: For a much more lengthy description of the evolution of the cell phone industry, including the technical, development, competitive, financial, and marketing challenges, see: <http://bitpim.sourceforge.net/papers/phonespecs/> and click on "this article" by Stephen Den Beste.

The evolution of this market continues.

CHARLES BOVAIRD is a DACS board member and treasurer.

Writer's Market

From Editor to Freelance Writer

By Joe Pasquini

Foreword by Tony Indicato, Editor
Capital District Computer Enthusiasts of New York, Inc.

I have asked myself quite a few times how does a person graduate from editor of this newsletter to a freelance writer? I do know part of that answer and it lies in starting with a genuine interest in writing or just an open position being available and willing to fill the need. For me, that position was Recording Secretary for CDCENY, afterwards graduating to Editor of the newsletter. Then I learned about Joe Pasquini writing freelance for a magazine called Processor, so I decided to ask him how he got there? This is his response.

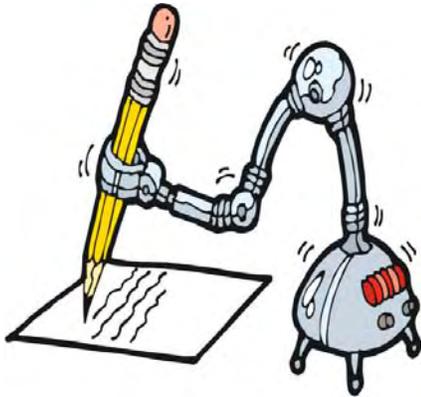
—TONY INDICATO,

I'VE ALWAYS BEEN interested in writing. In the past, my writing has focused around articles for the club newsletter or other similar publications. The idea of doing freelance writing was always in the back of my mind, but I never found myself doing anything about it. That all changed one day back a few months ago when I stumbled upon a display of the 2005 edition of the Writer's Market published by Writer's Digest Books. I picked up the book and took a few minutes to peruse it. It included information on the pros and cons of freelance writing as well as a listing of hundreds and hundreds of magazines and newspapers that are always looking for new writing talent. I eventually purchased the book and read through it for several days trying to find potential publishers. I identified several, including one called Processor.

As it just so happened, CDCENY had arranged for a presentation from the user group representatives from Smart Computing magazine. After their presentation, I spoke with one of the presenters who proceeded to give me a couple of pointers as well as her business card. Her card

said Processor on it, and as I would later learn, Processor is affiliated with Smart Computing. Well, one thing led to another, and after some correspondence and negotiation with their senior editor, I found myself doing freelance work for Processor. After completing a couple of assignments and building my confidence, I contacted a couple of other magazines and have already begun a regular monthly column for Scanning USA, a radio communications publication.

The freelance writing process varies from magazine to magazine. Many publications require writers to submit an outline of an idea in advance. Others, such as Processor, actually solicit writing assignments to their writing teams. There are pros and cons to both methods. The frequency of assignments can vary



greatly, but currently I am doing approximately three 400-word articles and one or two major articles per month for the two magazines. I have also been contacted by another trade magazine, but we'll see where that one goes.

My advice to anyone thinking about writing is to just start doing it. Volunteer to write an article for the club newsletter! Or, submit an article to one of the local weekly newspapers. Once you start writing, you will quickly find if you wish to continue or not. See where it leads. Just keep in mind that compensation will vary widely from one assignment and from one publication to another, so be prepared for that fact right up front. You will also need to get a Taxpayer ID number as well, as you are basically self-employed when you freelance. There are also tax implications (as with any form of employment). One other thought to keep in mind is that anything you write and submit usually becomes the property of the publication. There are variations on this, of course, so check with your potential editor first before signing any paperwork. One, and buy the 2005 Writer's Market... You'll be glad that you did!

Joe Pasquini

CDCENY - 12/2004

[This article was provided by the Editorial Committee of the Association of Personal Computer User Groups (APCUG), an international organization of which this group is a member.]

DACS Receives Newsletter Award

DACS placed third in this year's newsletter contest sponsored by the Association of PC User Groups (APCUG) at its annual conference January 3-6. The conference, usually part of the Comdex Show in October, was rescheduled to coincide with the Consumer Electronics Show, also in Las Vegas, when Comdex was cancelled.

The award was in the category of large user groups (350-2500 members), with separate prizes going to small- and medium-size groups. APCUG represents about 1500 user groups worldwide.



DACS has been a frequent flier in the newsletter contest, and *dacs.doc* won the top prize in its size category in 1994 and 1999. It is perhaps an ironic twist that we are competing this year as a "large user group," even though we were previously considered a small-to-medium UG and our own membership has declined.

Competing among the heavyweights is a trying task that gives third place an even greater significance. A key component of the judging in this contest is the quality of the content, and we should thank all our writers for their contribution to our success.

Computers and Creativity

Computers and Creativity - Part 6 Neural Networks

by Richard P. Ten Dyke

IDEAS THAT FUELED artificial intelligence in the 80's and 90's were born in the late 50's and early 60's, when universities were getting their first large computers. LISP, the programming language, (LIS Processor) was conceived in 1958 at MIT, the father being John McCarthy and the mother an IBM 704 computer. Raising the child took many years and many people. In the 80's when large internal memories were possible LISP became a favorite of artificial intelligence developers. At one time, artificial intelligence was actually defined by someone as "a program written in LISP." LISP has some neat tools: it handles recursive functions — functions that call themselves as arguments — and it can write routines by itself and then execute them on the fly. But LISP has a deadly flaw for commercial applications. As an interpreted language, not compiled, it gives any user the tools to modify the program itself, a security hole bigger than a bus. But, because of its flexibility, it became a good way for college students to show off fancy algorithms and graphics. One can imagine graduate students and college professors becoming entranced with their power, and bestowing on computers an ability to think. Today, LISP is seldom used outside of the military and MIT.

Another idea born in the 60's and matured in the 80's was Neural Networks. I mentioned this in an earlier piece, but will expand on it now. It is based on a mechanical view of the brain, with neurons being connected to each other processing information. A Neural Network is a computer program that connects "nodes" to each other with various weighting factors in the connections. The program achieves its personality by adjusting the weights between the nodes. The principal concept of the neural network is the

ability to learn from training. It works. Training consists of feeding the program sample data which contains features and results. The program continues to adjust the weights until it can separate the data, based on features, into a number of piles,

depending on the results. It sifts through the data over and over, adjusting the weights each time, until the piles are as cleanly separated as possible.

Here is how I used it once. Some of the facts are disguised to preserve confidentiality.

We had a ton of market research data concerning a possible new product designed for

engineers. The research was divided into two parts. In part A the respondents were asked about specific characteristics of the product, like speed, price, functions, features, warranty terms — about twenty items in all. One of the features was color, which had no importance to the working of the product.

In part B, the same respondents were asked to choose between pairs of potential product offerings presented to them in a randomized way. Each respondent was asked to select one each from a variety of pairs of offerings that differed in some combination of features. We used a neural network to build a model of the decision process, showing which features were the most important.

The results from part A were easy to predict — more function for a lower price was better. We were surprised when the results from the part B showed very little correlation to the results of the first part. When respondents were asked how they might make a decision they gave different reasons than they used when actually making it. The surprising result of the neural network analysis was that color was an important feature in the decision process. Apparently, engineers, like other people, have an emotional side to their

ballyhooed "rational" decision making process. For these folks, and at that time, black was cool and beige was not. After all, what they bought would be seen by other engineers, and their image was at stake.

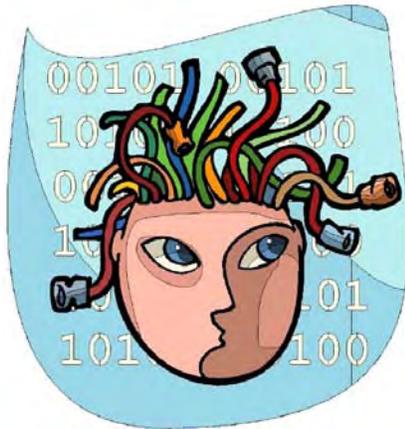
The value of neural networks is the ability to find relationships in data that may be hidden to the human eye. The term "data mining" derives from the use of neural networks to sift through huge data bases to find hidden relationships.

A commercial use of neural networks is to spot possible fraud in the use credit cards. A credit company was seeking tell-tale signs that a card is being used fraudulently. They fed a neural network program with a history of use, some which turned out to be fraudulent and some not. The neural network looked for events in card use that were likely precursors to fraud. Recently I received a call from my credit card company inquiring about my use. I had been to California, and the company wanted to know if I had purchased gasoline and also computer equipment, because for them that combination was a tip-off to possible fraudulent use.

Taking a walk with a friend over the holidays, we discussed the limits of the computer to make judgments about aesthetics. He cautioned me to be careful in rushing to conclusions, because, he said, in the U.K. where he lives, they use computer models to predict with high accuracy how many people will watch a particular TV program before it airs. Now, he is not saying that the model can tell whether a program is good or bad, just how many people will watch it. That recalled to me an example a neural network which was used to make human-like judgments.

An automobile manufacturer had to test, for noise, fans to be installed in an expensive car. Six human inspectors were employed to listen to them and reject the bad ones. It was not just loudness; other characteristics of the sound quality could be grounds for rejection.

The company created a data base of sound profiles gathered from a large sample of fans. Trained listeners determined which fans were acceptable and which were not. A data base of sound profiles was created using Fourier transforms to convert sound profiles into numbers. The numbers were then fed into a neural network which created a model to distinguish between sound profiles from acceptable fans and those which were not. The six inspectors were offered other jobs and the process was taken over by a microphone and a computer. Sorry about the inspectors.



We don't have space to detail exactly how neural networks work, but it is neither miraculous nor human. It is more like statistics. You may have many factors that can lead to a result that is positive or negative, true or false, A or B. The neural network can create a mathematical relationship using that information to come up with a model that gives similar results. It uses mathematical optimization, starting with one set of constants (weights) for the network, comparing that test result with the known results, and then modifying those constants in a disciplined way to make improvements. It is clever and it works if the problem is properly structured. It can also fail.

An important aspect of neural networks is having the skill to know what factors to test. Hundreds of factors might lead to some conclusion, but only a few might be important. Quite possibly, it might be that certain combinations, when appearing together, hold sway.

A danger when using neural networks is that past is not always prologue; historic data may not predict the future. This is a stumbling block in all such research, and it has been a particular problem for those who wish to use neural networks to predict the stock market. (It has been used with only limited success.) One can always find relationships, even within totally random data, but those relationships do not hold for future events.

In an apocryphal story, the military wanted to create a program that would be used to spot enemy tanks behind trees. After many hours of processing, the neural network was able to differentiate between photographs of trees only, and trees with tanks behind them. So they tested the resulting algorithm with new data. It didn't work. They discovered that the photos with tanks were taken on cloudy days, and those without tanks were taken on sunny days, so the neural network solved the problem by learning to distinguish sunny from cloudy.

Next month: Evolutionary Computing.

RICHARD TEN DYKE, a member of the Danbury Area Computer Society, has previously contributed to this newsletter on the topic of Digital Photography. He is retired from IBM and can be reached at tendyke@bedfordny.com. All opinions are his own, and he welcomes comments.

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New Members

From 12/23/2004 to 1/18/2005

- | | |
|------------------|------------------|
| 1) Desmond Nolan | 5) John Whitcomb |
| 2) Francis Caro | 6) John Miller |
| 3) Dan McLeod | 7) Ed Shaw |
| 4) Pete Hauser | 8) Chris Crowl |

THIS IS YOUR LAST NEWSLETTER

If the membership date on your mailing label reads

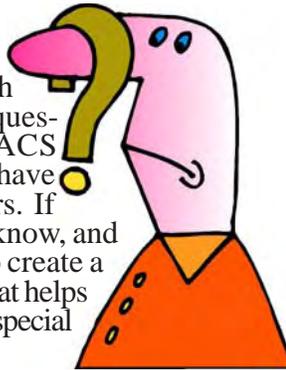
EXP 11\2004

or earlier

You need to renew your DACS membership

NOW

Are you hung up with computer questions? DACS SIGS may have the answers. If not, let us know, and we'll try to create a new SIG that helps fulfill your special needs.



Science Horizons

Science Horizons Inc., is an independent non-profit partnership of education and industry in the Danbury, CT region. Its mission is to encourage an interest in science among middle and high school students through its annual *Science Fair* and *Symposium*. This Symposium provides an opportunity for high school students to present results of independent research to their peers and area professionals. A panel of engineers, scientists and business people from local industries evaluates presentations.

DACS is a member of the the Science Horizons steering committee. DACS members who would like to participate as judges at this year's events should contact Howie Berger (hberger@dacs.org) or Jim Scheef (jscheef@dacs.org). We will have details on dates, times and other information in next month's *dacs.doc*.



Do the DACS General Meetings leave you thirsting for more? Find all that plus food for thought at the meeting after the meeting—the DACS PIG SIG.

Special Interest Groups

SIG NOTES: February 2005

Access. Designs and implements solutions using Microsoft Access database management software.

Contact: Bruce Preston, 203 431-2920 (*bpreston@mags.net*).
Meets on 2nd Tuesday, 7p.m., at the DACS Resource Center.
Next meeting: FEB 8

Advanced Operating Systems. Explores OS/2, Linux, and NT operating systems. For info, follow link to Don's site on *dacs.org*.

Contact: Bill Keane (*wbk@mags.net*) 203-438-8032.
Meets 2nd Wednesday, 7:30 p.m., at the DACS Resource Center.
Next meeting: FEB 9

dotNET. Programs for Web site/server.

Contact: Chuck Fizer (*cfizer@snet.net*).
Meets 1st Wednesday, 4-6 p.m., at the DACS Resource Center.
Next Meeting: FEB 2

Digital Imaging. All about digital cameras, retouching and printing.

Contact: Ken Graff at 203 775-6667 (*graffic@bigfoot.com*).
Meets last Wednesday, 7 p.m. at the DACS Resource Center.
Next Meeting: MAY 25

Investment Strategies. Discusses various investment strategies to maximize profits and limit risk.

Contact: Paul Gehrett, 203 426-8436, (*pgehr4402@aol.com*).
Meets 3rd Thursday, 7:30 p.m., Edmond Town Hall, Newtown.
Next Meeting: FEB 17

Linux. Helps in installing and maintaining the Linux operating system. OCT also be of interest to Apple owners using OS X.

Contact: Bill Keane (*wbk@mags.net*) 203-438-8032
Meets 3rd Wednesday, 7:30 pm at the DACS Resource Center.
Next Meeting: FEB 16

Macintosh. Focuses on all aspects of the Mac operating system.

Contact: Richard Corzo (*macsig@dacs.org*)
Meets 1st Thursday at DACS Resource Center at 7 p.m.
Next Meeting: FEB 3

Microcontroller. Investigates microcontroller applications from theory to hands-on implementation and member projects.

Contact: John Gallichotte, 203 426-0394, (*tlclotus@ieee.org*).
Meets on 4th Tuesday, 7:00 p.m., at the DACS Resource Center.
Next Meeting: FEB 22

Server. Explores Back Office server and client applications, including Win NT Servers and MS Outlook.

Contact: Jim Scheef (*jscheef@teleAUGksys.com*)
Meets 2nd Thursday, 7 p.m., at the DACS Resource Center.
Next meeting: FEB 10

Visual Basic. Develops Windows apps with Visual Basic.

Contact: Chuck Fizer, 203 798-9996 (*cfizer@snet.net*) or Jim Scheef, 860 355-8001 (*JScheef@TeleAUGksys.com*).
Meets 1st Wednesday, 7p.m., at the DACS Resource Center.
Next Meeting: FEB 2

Wall Street. Examines Windows stock Market software.

Contact: Phil Dilloway, 203 367-1202 (*dilloway@ntplx.net*).
Meets on last Monday, 7p.m., at the DACS Resource Center.
Next Meeting: FEB 28

Web Design. Explores popular applications for designing and creating Web sites.

Contact: Anna Collens, 203-746-5922 (*acvo@annagraphics.com*).
Meets 3rd Tuesday, 7-9 p.m. at the DACS Resource Center.
Next Meeting: FEB 15

SIG News & Other Events

dotNET. A well attended dotNet SIG met on Jan 5th at 4pm at the Resource Center. There were several laptops in attendance as well. The Random Access session dominated the beginning of the session. New attendees presented many of the questions. It appears to me that Microsoft has not done a very good job at laying the development foundation for programmers now engaging dotNet for the first time. Large issues arise regarding operating systems and their versioning. Similarly with the dotNET foundation environment. In many previous meetings we have discussed the general scope of dotNET and have included SQL Server as an active member in that scope. As a consequence, programmer/developers can see the enormous challenge in dotNET and the difficulty finding the technical resources they need to proceed. It's not that the resources don't exist, but rather where do you go to find what you need without learning all about other topics of marginal interest.

On a direct technical front, we again looked at several web pages supporting a marketing application currently in development. The discussion centered on our attempt to provide a rich client experience on the browser for the end user. To properly frame the context, we discussed the Microsoft web page postback process and its attendant communication delays with the page server. The postback process is a processing method that transfers potentially huge amounts of information back and forth between the client browser and the page server. The process greatly facilitates issues relating to session processing, but its main drawback is the many time-consuming posts to and from the server. Our example demonstrated an improvement in postback time consumption by performing validation analysis on the client browser instead. The key factor here is the use of Java script. Now, this leads to another learning experience, but its a valuable one because it significantly improves the richness of the application. By its very nature, the application using Javascript and running in the client's browser greatly improves the user's experience with the application.

dotNet-VB SIG resumed after pizza with Jim Scheef now in attendance. Jim had prepared a Microsoft MSDE installation presentation which he then proceeded to deliver. The goal was, to again, discuss SQL Server and an opportunity for developers to implement this database strategy without incurring cost for the software tools. Jim is very effective in finding minimal cost solutions to big problems. MSDE is a no cost down load, But the key for a developer is acquiring access to the Enterprise manager tools used to support the database. Jim had a 74 MB down load with all the web links one needs to emulate his presentation. Several people went away from the meeting with the SQL tools for their development projects. One of the significant aspects to this presentation was the discussion and interaction between attendees. This brought out many solutions to issues and questions regarding developer frustration installing these tools As always, we delved into the specifics of the implementation, but the ancillary comments about the privileges, permissions and policies that need to be implemented were discussed as well. The meeting ended when Jim had another copy of SQL Server installed on his laptop.

Future meetings may attract 3 party vendor presentations, we'll apprise you when this is confirmed. Also, we are thinking about introducing a series of talks on PHP which will expose us to other web programming technologies.

Web Design. There was no DACS web design meeting in January. Next meeting will be February 15, 2005, and will look into some Dreamweaver tricks. Also mark your calendar for the March 15th meeting. The Web Design SIG will have a guest speaker - Birgitte Elbek who will present an introduction to Macromedia Fireworks.

February 2005

Danbury Area Computer Society

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday																																																																																																																
		<p><i>1</i></p>  <p>7:00 P.M. GENERAL MTG</p>	<p><i>2</i></p>  <p>4 PM Internet Prog. 7 PM Visual Basic Chuck Fizer 203 798-9996</p>	<p><i>3</i></p>  <p>Macintosh 7:00 PM Richard Corzo macsig@dacs.org</p>																																																																																																																		
<i>6</i>	<p><i>7</i></p>  <p>7:00 PM Board of Directors</p>	<p><i>8</i></p>  <p>7:00 PM Access Bruce Preston 203 431-2920</p>	<p><i>9</i></p>  <p>7:30 PM Advanced OS Bill Keane 203 438-8032</p>	<p><i>10</i></p>  <p>7:00 PM SERVER Jim Scheef 860 355-0034</p>	<i>11</i>	<p><i>12</i></p>  <p>DACS.DOC DEADLINE</p>																																																																																																																
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<i>27</i>	<p><i>28</i></p>  <p>7:00 PM WALL STREET Phil Dilloway 203 367-1202</p>	<table border="1"> <thead> <tr> <th colspan="7">Jan 2005</th> <th colspan="7">Mar 2005</th> </tr> <tr> <th>S</th><th>M</th><th>T</th><th>W</th><th>T</th><th>F</th><th>S</th> <th>S</th><th>M</th><th>T</th><th>W</th><th>T</th><th>F</th><th>S</th> </tr> </thead> <tbody> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td>1</td> <td></td><td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td> </tr> <tr> <td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td> <td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td> </tr> <tr> <td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td> <td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td> </tr> <tr> <td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td> <td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td> </tr> <tr> <td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td> <td>27</td><td>28</td><td>29</td><td>30</td><td>31</td><td></td><td></td> </tr> <tr> <td>30</td><td>31</td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>					Jan 2005							Mar 2005							S	M	T	W	T	F	S	S	M	T	W	T	F	S							1			1	2	3	4	5	2	3	4	5	6	7	8	6	7	8	9	10	11	12	9	10	11	12	13	14	15	13	14	15	16	17	18	19	16	17	18	19	20	21	22	20	21	22	23	24	25	26	23	24	25	26	27	28	29	27	28	29	30	31			30	31												
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Networking

Networking Fun(damentals)

Part 2 - Network Interface Cards

by Bruce Preston

LAST TIME I DESCRIBED CAT-5 cables, hubs, switches and routers. As promised, this segment will talk about Network Interface cards, and how to configure and test your client machine's connection.

The network interface card (or NIC) and its associated software (drivers and protocol stack) perform several functions:

a) It takes digital data in your computer and converts it to an electronic signal suitable for placing on the cable or the reverse process.

b) It wraps the data in a 'packet' which includes addressing and error correction information.

NICs come in several physical forms. With the greatly reduced cost of chipsets, they are often integral to the motherboards of desktop machines or notebooks. For older desktop machines they may be an adapter board (PCI card). Notebook machines often make use of PCMCIA (or PCcard) adapters. Wireless NICs are also available but will be discussed in a separate column.

Protocols

We live with many protocols and don't think about them. For example, when you answer the telephone, you typically say "Hello.". A business will usually identify itself. It is generally considered good form for the caller to identify him/herself as well. In the same way, there are protocols or conventions established for computer-to-computer communications. Computer communications have several transport protocols, the most common of which is Ethernet. Other, less-often seen protocols are Local Talk, Token Ring, FDDI, ATM, and ARCnet. Ethernet supports multiple topologies and media – the way to physically interconnect the devices. For wired media, the Cat-5 cable dis-

cussed in part 1 - 10base-T and 100base-T is the most commonly seen, but occasionally you might see an installation that makes use of coaxial cable. Ethernet makes use of an access method called CSMA/CD (Carrier Sense Multiple Access/Collision Detection). With this access method, each network card listens for packets addressed to it, and if it needs to send,

waits for a quiet interval before it transmits. However, there will always be situations when two devices try to begin transmission at the same instant. In this case, they detect the collision, and each wait a small, random delay before trying to transmit again. Since they delay different amounts one or the other will get a clear transmission and the other will wait. This is all handled by the processor on the NIC.

The data that is moved across an Ethernet connection also follows a protocol – the most common of which is TCP/IP (Transmission Control Protocol / Internet Protocol) – the standard protocol of the internet. TCP/IP is primarily a point-to-point protocol – geared for connecting two specific devices, rather than broadcasting from one device to many. It works with 'packets' – strings of information, each of which have identifying information in headers containing addressing information and data content identifiers as well as trailers which contain error detection information.

TCP/IP requires that each device have an absolutely unique identifying address, known as an Internet Protocol (or IP) address. Currently an IP address is 32 bits long (combination of 1's and 0's) which is much easier to describe by breaking into 4 sets of 8 bits, which in turn can be represented by numbers in the range of 0 to 255. These 4 sets of numbers are traditionally written in

what is known as dotted decimal. Thus the 32-bit IP address associated with the DACS web site is written as 66.181.192.63

Those 32 bits of the address are not just randomly selected. There is a structure much like that of a phone number. If you look at a phone number such as (555) 321-9876 you recognize the digits 555 as an area code. You might even recognize 321 as an exchange, and 9876 as a subscriber within the exchange. With an IP address, the left-most bits of the address identify a network, and the right-most bits identify a computer ("host") within that network. Unlike the phone number structure, however, the number of bits used to define the network identifier and the number of bits used to define the host identifier varies. This allows for a few networks to have a very large number of hosts, and a large number of networks have a relatively small number of hosts.

When an IP address is assigned to a host, such as 66.181.192.163, it is necessary to also provide a "subnet mask". A typical subnet mask is 255.255.255.0. If you convert the decimal number 255 to bits, it would be 8 bits of 1's. So 255.255.255.0 is 24 consecutive 1 bits, followed by 8 consecutive 0's.

When a computer puts a packet on the network, the TCP/IP packet has both the IP address of the sender and the receiver. Every other network card on the network segment typically 'sees' the packet (remember, they are listening for packets addressed to them, as well as for a quiet interval to see if they may transmit). When a card sees a packet, it examines the address packet to see if the packet is addressed to it. If it isn't, it ignores it. If it is, it accepts the packet and acknowledges it.

How does a packet destined for a distant host get there? The sending computer can determine that an address is 'local' or 'remote' by comparing its own address and the target address for the length of the subnet mask. If they match, it is local and it puts the packet on the local network cable where it will be picked up by the local device. However if it isn't local, it wraps the packet in another packet that it addresses to a 'gateway' device and hands the packet to the gateway with the implied request that it be delivered. If you have a broadband connection, your gateway is your Cable or DSL modem, or your Cable/DSL Router. The gateway accepts the data packet from the sender and using



its tables forwards the data packet towards the destination. Note that the router need not know exactly where the destination is, it just needs a table that tells it in which direction to send it. For a home network with a broadband connection (or even a dial-up connection) the router table is very simple – send it to the device at the other end of the connection. If that device is your ISP, they have a router sitting there with a much more complex routing table.

Configuring Your Network Adapter

There are two ways to configure your network card. The original method required (and still does) that you manually enter an IP address and subnet mask to be used by your network card. This is called “static IP addressing” – the number is entered and it stays the same. As it happens, it turns out that there are a lot more computers and other devices than there are available IP addresses, and most of the time they aren’t in use. When most people accessed the internet via dial-up connections, it would not have made sense to assign an IP address to each device that *might* connect to the internet, so a mechanism called DHCP was developed. DHCP provides an IP address upon demand which is used for the duration of the connection, and then released to be used by another. So the other option for configuring a network card is DHCP – to ‘obtain an IP address automatically’. Of course, this implies that there is a DHCP server out there waiting for a request for an IP address lease. When you establish your account, your provider will tell you whether you have a static IP address (and tell you your subnet mask) or to use dynamic IP assignment.

Within Windows, you set the IP address different ways depending upon which release of Windows you are using. For early Windows (95, 98, etc. “old Windows”) you right-click Network Neighborhood and select the Properties page. On that page will be a list of networking components, such as Clients, Services, Adapters and Protocols. One of your protocols (often the only protocol) will be TCP/IP – if you select it and press the associated Properties button you will get to a page where you may set the IP address mechanism (static or dynamic) and if static, set the IP address, subnet and gateway.

For newer versions of Windows (2000, XP – “new Windows”) it can vary depending upon your ‘theme’ – but you are usually safe by starting in Control Panel and then opening Network Connections. You will see one or more connections – the one you want is probably either a Dial-up or Local Area Connection. Right click and select Properties and proceed as above.

Name Resolution

Quick – what’s the IP address for the DACS web site? You read it just a few minutes ago, but you probably don’t remember it, do you? We much prefer working with names rather than numbers. There are servers on the internet whose sole purpose is to convert a request for a named entity, such as www.dacs.org to an IP address. These are called DNS (Domain Name Server) machines. When you sign up with an ISP, in addition to telling you whether you have a static or dynamic IP address, they will provide you with one or more IP addresses for DNS. These numbers are entered into the property page(s) in similar fashion to specifying your IP address.

Checking Things

There are several utilities available for checking that your settings are correctly established. Again, how you get

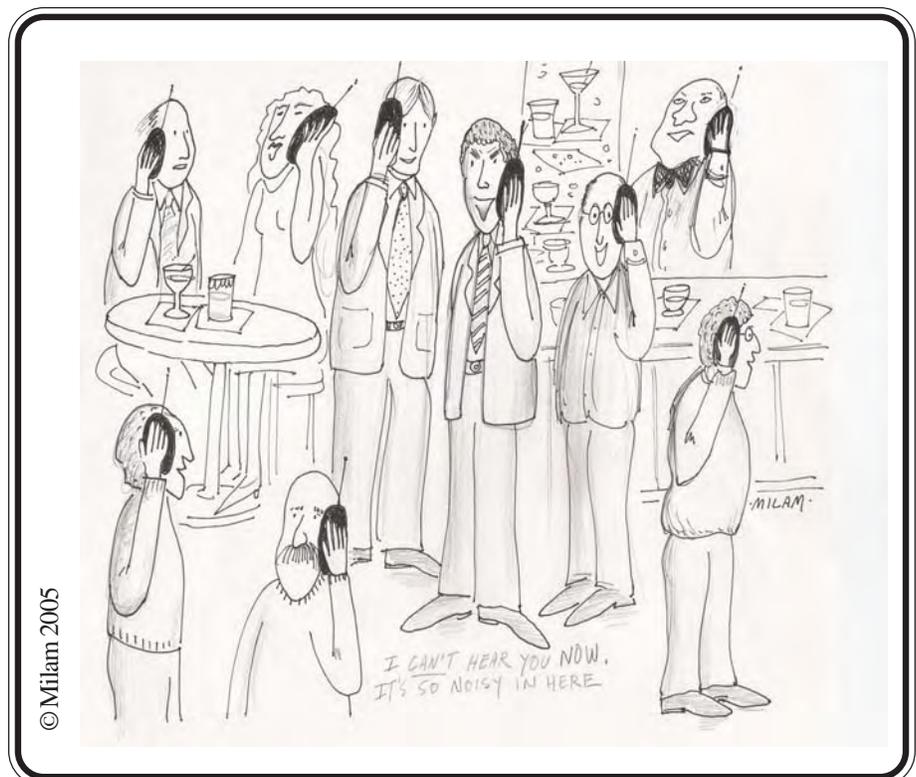
Post Your Biz on dacs.org

We would like to post a directory of our members’ business services on the DACS web site.

These would preferably be computer related, hardware and software solutions, Web design, etc., but can include Accounting, Travel, Advertising, Public Relations, or any other business service that you might be able to provide to all our members.

At some future date we may include the directory in our newsletter.

To get your listing, post your name, business, phone, e-mail and Web address to dacsprez@dacs.org.



to them varies depending upon your Windows release.

For "old Windows" there is a GUI program named WINIPCFG. The easiest way to get to it is to click START then RUN, then type WINIPCFG and click OK. It will show you your IP address (note: there is a drop down field, it may point to a PPP adapter which is used for dial-up networking. If you are looking for your LAN NIC, adjust the drop down field to point to your network adapter.) It will show your IP address, subnet mask, gateway and (via another button) your DNS settings. For "new Windows" click START / RUN / type CMD and press Enter. In the command window type IPCONFIG /ALL and you will get the same information as above.

Options on these programs may be used to release or renew a dynamically assigned IP address.

Once you have confirmed that you have an IP address, the next thing to check is to see if you have a connection. This is done with the PING utility. PING sends out a very small probe to a remote site and asks that the probe be 'echoed' back. PING is accessed only from a command line prompt. To get to a command prompt:

Old Windows: START then RUN then COMMAND then OK

New Windows: START then RUN then CMD then OK

Once you have a command prompt, type PING followed by the IP address that you want. You might start by pinging your gateway. You should get responses immediately. If you do, it is very likely that your computer's network settings are correct. Next ping some site just beyond your gateway, such as a DNS server. Again, you should get a response immediately. HOWEVER, be aware that many sites do not respond to pings, so you may have to try several addresses. The good news is that in the next step we will use a method that doesn't require that you remember an IP address.

Test your DNS

Open a command window as above and then type

```
ping host.domain
```

Where host.domain is some system that will respond to a ping request. For example, while writing this I tested

ping yahoo.com and got responses from a site at IP address 66.94.234.13. Where did that come from? Well, ping made a request to my DNS for a name resolution, and my DNS returned the address of yahoo.com back to ping, which then converted the request to be ping 66.94.234.13 for me. So this test not only tested the network connection, but also confirmed that my DNS is working.

If you got this far you are in excellent shape – all of your low level networking components are working properly and you have a foundation upon which you can run browsers, ftp, e-mail, etc.

Let's put one more utility in our toolbox. Open a command window as above, and then type

```
TRACERT host.domain
```

TRACERT (Trace Route) is a utility which displays to you the various legs of the journey (hops) between you and the remote site. For example, when writing this I did a tracert to yahoo.com and got the identifiers of the 16 locations that I passed through to get to Yahoo! With practice you can recognize carriers and locations – for example from here in western Connecticut my path went to Boston first, then to New York, and then to San Jose. As an aside, nodes are often given names that match airport abbreviations – JFK, EWR for Newark, ORD for Chicago, LAX for Los Angeles, etc. In addition to the routing, you will see how long it took for the message to get to a particular node (in milliseconds.) If you see a high number in the milliseconds column then you have identified a network bottleneck.



DACS at C3 EXPO

DACS has been offered to participate with the "association and user group program" at C3 EXPO which will run JUNE 28-30, 2005 at the Javits Center in NYC. They have offered DACS a free 10x10 booth and discounts for our members to conferences. Their web site is www.c3expo.com. As the programs evolve DACS will keep you informed of DACS plans for participation.

Next time: More about the functions of your Cable/DSL Router such as NAT, Firewall, Virtual Server, etc.

BRUCE PRESTON is president of West Mountain Systems, a consultancy in Ridgefield, CT specializing in database applications. A DACS director, Bruce also leads the Access SIG. Members may send tech queries to Bruce at askdacs@dacs.org.

DACS Wants You

It's people that make this club go and DACS has several positions that need people to fill them:

Secretary – Board-level position. The person is responsible for recording the minutes of our director's meetings. Should be able to attend almost all board meetings (held on the Monday following the first Tuesday each month). Larry Buoy, our present Secretary, will train the new volunteer and help fill in when necessary. We have a tape recorder to help ease the process.

Associate Editor – Help our editor produce the monthly newsletter and learn editing, document layout and desktop publishing skills in the process. Our newsletter has won numerous awards over the years; you can help maintain that tradition. No writing skills are needed and we have all the software.

Publicity Editor – Help prepare and distribute meeting announcements to the area newspapers. You would be helping our VP of Publicity, in this vital job.

To apply, send an email to dacsprez@dacs.org. DACS is an equal opportunity volunteer organization.

Computers and Creativity, Computer Programming and mathematics - Magic Squares - Part (4)

By Charles Bovaird Jr.

IN THIS ARTICLE WE will use a computer model to solve the question "Is there a finite number of solutions to the M_3 problem, and if so, what are they?"

Past experience solving other problems demonstrated value in creating a programming model of the thinking process since it allowed a study of perspectives not likely found using just paper and pencil. In such a case a computer program model used as a tool for problem solving becomes "A Tool of Thought". There are many programming languages that have been used in this manner. Depending upon your background and experience and the problem itself, some languages are more appropriate than others. Following is the output of such a program written in "A Programming Language" (APL).

PERMUTATIONS OF 3LETS = $9 \times 3 = 729$
PROGRAMMING MODEL GENERATED
729 3LETS
OF WHICH 61 3LETS SUM TO 15
AFTER REMOVING DUP NO.S IN 3LETS
THERE ARE 48 3LETS LEFT
FOLLOWING ARE ALL THE 3LETS
GROUPED BY CENTER NO.

519 429 438 249 159 168 276 186 195
618 528 537 348 258 267 375 285 294
816 627 735 546 357 465 573 384 492
915 726 834 645 456 564 672 483 591
825 843 654 762 582
924 942 753 861 681
852
951

PROCESS - USING GROUP WITH
CENTER NO. = 2 SET

WE MUST SELECT ALL SUBSETS
OF 3 3LETS THAT MEET THE FOLLOWING
CRITERIA:

- (1) THE SUM OF THEIR FIRST VALUES = 15
- (2) THE SUM OF THEIR LAST VALUES = 15
- (3) THERE MUST BE A REMAINING 3LET THAT FILLS THE 2 EMPTY CELLS AND STILL MEETS THE SUM TO 15 CRITERIA

4 7
528
6 9

THE CENTER NO.=2 GROUP FAILS
CRITERIA (2) AND (3).

NOW LET US EXAM THE GROUP
WITH CENTER NO.= 5

159
258
357
456
654
753
852
951

THE ONLY SUBSET OF THE '5'
GROUP THAT MEET CRITERIA IS:
456 357 852 159

492
357
816

THE ROTATIONS OF THIS MAGIC
SQUARE ARE:

816 672 294 438 618 834 492 276
357 159 753 951 753 159 357 951
492 834 618 276 294 672 816 438

IN POLITICS THEY WOULD CALL
IT 'SPIN', BUT 'SPIN' SOMETIME HIDES
A MORE USEFUL VIEW.

HERE IT IS JUST A DIFFERENT WAY
OF LOOKING AT THE SAME THING.

This approach to solving the M_3 problem can easily be programmed in DOS basic or Visual Basic and still qualify as a "A Tool of Thought" process.

CHARLIE is an undying IBM-er, a long-time board member and treasurer of DACS.

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New SIG Forming

The PC Maintenance SIG will meet the fourth Thursday of each month from 7pm to 9pm at the DACS resource center, 198 Main St, Danbury CT

The first meeting will be on January 27, 2005. Subject: CPU hardware

Call Charles Bovaird, (203) 792-7881, for more information



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Random Access

January 2005

Bruce Preston, Moderator

WE WELCOME QUESTIONS FROM the floor at the start of our General Meetings. In addition, members who are not able to attend the General Meeting may submit questions to askdacs@dacs.org. We will ask the question for you and post the reply in *DACS.ORG*. Please provide as much information as possible since we can't probe during the session.

Q. An observation rather than a question: I bought a new computer a few months ago and it has been great. However, earlier this week I went to load some software and it reported that it was out of disk space. The manufacturer partitioned the hard drive into 3 partitions. One is hidden and is presumably a restoration source, the second is the C: drive and has the operating system--15GB, and then the rest is the D: drive which is the remainder of an 80GB drive. I do digital photography and didn't notice the D: drive as being a hard disk, I thought it was the memory card's assignment. Had I noticed I would have installed programs (and their 'data folders') on the D: drive.

A. Comments from others: Yes, manufacturers are doing it that way as it is easiest for them to create a master disk image of the operating system that doesn't especially care what size the boot partition is. That way if they change hard drive sources they don't have to make any major changes to their installation setup. Have you noticed that in the retail outlets that it is impossible to purchase a drive of less than about 80GB, and that 160GB drives are now quite common? With the frequent changes in drive size coming out of the drive manufacturers this is the only way the PC manufacturers can keep up. By the way, doing your disk layout as you mention also makes it easier to do backups--make a master backup of your C: drive (O/S and installed applications on C:) that you only need to do when you make major changes. Then put your data on the D: drive. Most programs let you specify where their data is to reside via an options or preferences setting.

Q. If you have to rebuild a drive or put in a new, larger hard drive, how to you get the machine to start if it doesn't

have a floppy drive?

A. Newer machines often don't come with floppy drives. You can often get a USB floppy drive, but in most cases you can't boot from it because you need an O/S with USB support. However, newer Windows installation CDs are bootable, in which case you can set your machine to try to boot from CD first. If you have an operable machine with a CD burner, you can also make a "Pre-Installed Environment" your own emergency boot CD for Windows XP or Windows Server 2003. A good web site for seeing how to do this is "Bart's PE" - <http://www.nu2.nu/pebuilder/> This is not for novices. It has plug-in capabilities to support various anti-virus, anti-adware, anti-spyware, etc. It requires that you have a Windows installation CD--from this it creates a bootable environment such that you can come up in full Windows and have access to your new (bare) hard drive or existing hard drive (with a possibly damaged Windows environment.)

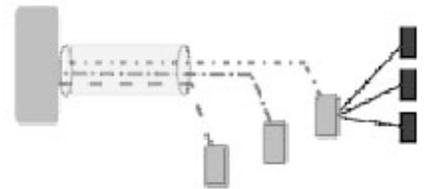
Q. What the heck is the high-level domain .NU ?

A. It's based in Sweden and is their answer to the lack of available domain names in the .COM high-level domain and the lack of interest in the high-level domains of .info and the like.

Q. Last month we had a discussion about the differences in how the cable and DSL providers handle their connections, e.g. differences between Charter and ComCast. Could you provide additional information?

A. A lot depends upon the media. In one configuration, the provider knows who is on the other end of the circuit because of a dedicated link (such as with DSL)—in which case it will allow access to anyone who

connects to the customer end of the circuit. In other configurations, there is no dedicated set of wires—for example, with cable all subscribers on that branch of the circuit share the common cable—so there has to be a way to authenticate who is who. Note that while more common for cable providers, some DSL providers including SBC/Yahoo! here in Connecticut also require PPPoE. The most common way of doing this is via the use of a communications protocol called PPPoE - Point-to-Point-Protocol Over Ethernet. It is used to establish an initial connection including authentication (i.e. logon name and password.). Once the connection is established, then data that flows through that connection is known to be originated by or addressed to the particular subscriber. For a service that makes use of PPPoE it is thus necessary to have the PPPoE protocol active on the client's end of the circuit. If you have a single computer connected to the broadband connection (cable or DSL) then the PPPoE protocol may be implemented in either the PC or in some cases within the modem itself.



In all cases, it is a mechanism whereby the service provider (large box at left in the diagram) can keep track of who is on the other end of the pipe (3 subscribers represented by the three middle boxes.) What is 'beyond' those smaller boxes (smallest boxes on the right, which represent a PC or a PPPoE-enabled modem or a PPPoE-enabled router) doesn't matter as by that time the circuit has been split out and delivered. So our 3rd subscriber in the diagram presumably has a router/firewall providing PPPoE and the broadband connection is distributed to the machines that constitute the local area network.

Case 1: Single computer, broadband modem does not have

PPPoE. In this case you need to install the PPPoE protocol on your computer. It will be part of the installation CD provided by your broadband service provider. As part of the installation you provide an account name and password. Typically this is the last that you have to provide it.

Case 2: Single computer, broadband modem supports PPPoE. In this case the logon name and password are solicited by the installation program and then stored in the modem. The modem usually has an HTML interface built into it that you can get at via your web browser. Again, this is usually the last time you have to provide logon name and password.

Case 3: Multiple computers, broadband router/firewall, modem does not have PPPoE. In this case (which is often not officially supported by the broadband provider) you typically have to configure the router to provide the PPPoE protocol and logon. The broadband router/firewall manufacturers have gotten more sophisticated in their installation utilities and now can often sense the need for PPPoE and once given the logon name and password, store it in the router/firewall so that when a connection comes up the router will perform the logon for you. In this case you do NOT want to have PPPoE installed on your computer(s).

Case 4: Multiple computers, broadband router/firewall, modem supports PPPoE. Here you may leave the PPPoE information in the modem if you want, or move it to the router/firewall as above, in which case it would need to be deactivated in the modem. Again, you do not want it in the individual computers.

PPPoE isn't the only way that providers can distinguish between subscribers. For example, each ethernet device (which includes a cable or DSL modem) has an absolutely unique electronic identifier within it called a MAC address. If the provider provides equipment to you they may have programmed the MAC address into their end, in which case when you connect they can determine the MAC address and match it up with their account.

Q. My father-in-law just passed away at the age of 97, leaving an autobiography that he had written on a PC. He lost the only printed copy he had made. He used some sort of voice recognition/dictation software on his computer. I use a Mac and don't have voice recognition software. Is there some way to get it off the PC and onto a Mac so we can read it or print it? I have the hard drive from the PC.

A. There are several ways. First, your father-in-law's voice recognition software isn't the same as a tape recorder--it hears the voice and then converts what it hears into text--usually by stuffing keystrokes into a word processor. With training by the person doing dictation, they are often 99%+ accurate. Probably the easiest way to do it is to put the hard drive into another PC as a second (or third, or fourth) hard drive and then copy the data from the drive to a CD which you can then load onto the Mac. (A member then stepped forward and volunteered to do the transfer.)

Q. A question about WiFi--there's a pretty good price difference between 802.11b and 802.11g. What is the difference in performance, reliability, etc.?

A. The major difference is in the speed of the connection. 802.11b is nominally 11 megabits per second (mbs) while 802.11g is nominally 54 mbs. They both use the same frequencies, and 802.11g devices can be enabled to communicate with 802.11b devices at the lower speed. Pure 802.11g devices are interoperable between brands. Some vendors have extended the standards with "Turbo" capabilities, but these are not interoperable between brands. Without external antennas, directional antennas, etc., the range and ability to get through walls, etc. is about the same between the two standards. One other significant difference is that 802.11g supports WAP security while 802.11b only supports WEP. WAP is more secure than WEP.

Q. Will older computers work with 802.11g?

A. Some of the 802.11g cards list that they have to have a certain processor speed behind them to support the

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software driver. This is because doing the encryption/decryption is fairly computer intensive. You will need to check the system requirements on the box (or the web) before purchasing.

Q. If you have a business web page set up, how long should it take before it will show up in a Google search?

A. The Google 'spider' that crawls through web pages and indexes them may take a while to find you. You can speed up the process by inviting a visit. However, even if it has visited your page it doesn't do anything that will cause it to appear near the top of the list of a search request. Google doesn't publicize how they do ranking, but it is pretty well known that a major component of page rank is how many other pages link into the page in question. However, each journey starts with but one step--you might start with this Google page: <http://www.google.com/addurl.html> Where you can invite the search engine to visit the page. You can also provide key words that you think are relative to your page.

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