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Computer Use in Social Services Network

Vol 8, No. 2
Summer 1988

Networking: The Linking of People, Resources and Ideas

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About the Network

Computer Use in Social Services Network (CUSSN) is a nonprofit association of professionals interested in exchanging information and experiences on using computers in the human services. Members participate in the Network by:

- Sending materials for the CUSSN Newsletter, such as: member needs, interests, hardware/software use, activities, resources, ideas, experiences, computer applications, and events. Send either in printed or MSDOS format.
- Distributing Newsletters at workshops and conferences. (I will send newsletters to distribute or place on a resource table.)
- Holding local CUSSN meetings. CUSSN meetings in California, Baltimore and Israel have been successful.

Network Dues: $15 individuals, $25 institutions (payable in U.S. Funds). Contact Dick Schoech, Associate Professor, School of Social Work, The University of Texas at Arlington, Box 19129, Arlington, TX 76019.

The Newsletter is published approximately 4 times a year and is sent free to all network members. Back issues $5 each.

The Disk Copy Service makes human services demos and shareware available to members for a small processing fee. See inside this newsletter (page 3) for details.

The Electronic Network (CUSSnet) establishes local bulletin boards, national and local mail and file transfer, downloading of public domain software, and access to numerous repositories of electronically available information on human service computing. CUSSnet builds on FIDONET, approximately 3000 microcomputer-based local bulletin boards across the U.S. and in 9 continents. Contact your local computer store for a list of local FIDO/OPUS nodes. Communications are at 300-2400 baud, 8 data bits, 1 stop bit and no parity. Almost any computer or terminal and modem will work.

The Skills Bank allows members to locate or share specific knowledge, skills and experiences. Contact Gunther R. Geiss, Adelphi U., School of Social Work, Garden City, NY 11530.

The Software Clearinghouse offers a computerized inventory of commercial and public domain available human service software. Contact Paula Galloway, U. of Washington, School of Social Work, 4101 15th Ave. NE JH-30, Seattle, WA 98195.

Special Interest and Area Group) are subgroups where significant networking is occurring.

- *Educators SIG*—contact Wallace Gingerich, School of Social Welfare, U of Wisconsin-Milwaukee, Milwaukee, WI 53201.
- *Hospital Social Services SIG*—write Mike King, Director of Social Work and Discharge Planning, Saint Francis Hospital, 100 Port Washington Blvd, Roslyn, NY 11576.
- *Baltimore, MD,* contact Bob Elkin, Professor, U of Maryland, School of Social Work and Community Planning, 525 W. Redwood Street, Baltimore, MD 21201
- *California,* James M. Gardner, Department of Developmental Services, Fairview State Hospital, 2501 Harbor Boulevard, Costa Mesa, CA 92626

See also country contacts listed on the back cover.

Services Available

Vendor/Consultant	Contact Person	Services
California		
Planet Press P.O. Box 3477 Newport Beach, CA 92663-3418	Anne Breuer (714) 650 5135	Consultants and developers for schools, group homes, residential facilities, and human service providers. Specialist software for Quality Assurance, Case Management, Behavior Management and Human Rights Documentation, Consent Decree Litigation Review, Adaptive Behavior assessments, School Psychologist Report Writing.
Florida		
Community Service Council of Broward County, Inc. 1300 South Andrews Avenue P.O. Box 22877 Fort Lauderdale, FL 33335	Carole L. Dowds, CIE Programmer/Coordinator (305) 524-8371	A full range of consulting and technical support in the automation of Social and Human Services. Systems include Agency Inventory/Directory Production, Information & Referral, Client Case Management, Mental Health Client Tracking. Personal computer and minicomputer versions available.
Illinois		
OUTP ST, Inc. Drawer CNC6 119 Wilson St., Park Forest, IL 60466	F. Dean Luse, Ph.D., CSW, President (312) 748-3854	Consultation on feasibility and information system planning. Provides help with accountability, forms & report design, decision support systems, database development, software selection & evaluation, training your staff to use computer systems. Extensive micro and mainframe computer experience.
Indiana		
Master Software Corp. 8604 Allisonville Rd., Suite 309, Indianapolis, IN 46250	Joan K. Boyer, (317) 842-7020	Fund-Master development software features donor/prospect tracking, online inquiry to demographic and pledge/gift records, account selection capability, word processing interface, labels, campaign analysis, pledge processing, and more. Fund-Master runs on IBM PC's & compatibles, Data General Desktop and MV series. Single-and multi-user versions are available.
Maryland		
KBL Group Inc. 'Knowledge Based Living' 808 Pershing Drive #100 Silver Springs, MD 20910	Karen Levitan, Ph.D., President, (301) 588-4633	Services to help you use information, technology, and systems as professional resources. We work for you; we work with you; we help you do it yourself.
Michigan		
ON-SITE 2955 Jackson Blvd. Highland, MI 48031	Larry J. Renaud (313) 887-2119 after 6:00 (313) 846-7020	ON-SITE offers consultation; information system planning; training; workshops; hardware and software evaluation.
New Hampshire		
ECHO Software Products Main Street, Center Conway, NH 03813	Loren Davis, Director or Marketing (603) 447-5453	Complete Human Service Software Systems including client information and tracking, accounting, and fund raising
New York		
King Associates, LTD. 215 Shoreward Drive Great Neck, NY 11021	Michael A. King, D.S.W. (516) 487-5995	Producers of AMIS - flexible off-the-shelf software for hospital social work and discharge planning departments. Customized programming are also available.
North Carolina		
National Collegiate Software Clearinghouse, School of Humanities & Social Sciences Box 8101, N. Carolina State U. Raleigh, NC 27695	G. David Garson Director (919) 737-3067 (919) 737-2468	A non-profit, educational, software service of North Carolina State University, the clearinghouse develops and distributes low-cost programs for IBM and Apple formats. Offerings include A-Stat, a full featured statistical package and Community Mental Health Simulation. Write or call for a free catalog.
Rhode Island		
Applied Innovations, Inc. South Kingstown Office Park Wakefield, RI 02879	(800) 272-2250 (401) 789-5081	A developer and manufacturer of numerous software programs designed to operate on popular microcomputers. The programs are fully supported, documented, and operational in hundreds of locations. Programs assist with Psychological Testing (e.g., MMPI), Office Management (e.g., billing/insurance forms), or Utilities (e.g., pop-up DSM-III-R info.)

Service Listing Announcements: Interested vendors/consultants should send payment along with their description. Rates are as follows:

Description length	Rate per issue	Rate per year (4 issues)
Under 15 words	$5	$18
Under 30 words	$8	$28
Under 45 words	$10	$34
Under 60 words	$12	$40

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one eighth page in one issue = $15 — one half page in one issue = $45 — one full page in one issue = $75
one fourth page in one issue = $25 — three fourths page in one issue = $60 — two full pages in one issue = $120

Advertisers must furnish a copy ready ad. If the ad will be run for four issues, a 25% reduction in cost is granted.

Mailing labels: Mailing labels are available at the cost of 7 cents per label.

CUSSN Disk Copy Service

Definitions of software codes:

*** = New this issue;
[F] = Freeware – Full working version; no restrictions on use;
[U] = User Supported Shareware Full working copy; you pay only if you use it.
[D] = Demo – Software that highlights a product and/or gives you the feeling of how the actual product operates.
[L] = Limited Use Version – Lets you examine the product, but limitations prevent continued use.
PC = Runs on the IBM PCs & compatibles.
{HD} = Indicates a hard disk is required.
Note: Vendors have granted distribution permission.
Help build the list. For every human service oriented demo/freeware/shareware disk you send me, I will send you any disk free.
For a more detailed description of products and a complete product listing, write CUSSN

Developmental Disabilities

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DD Connection (1 disk) – Illustrates a Developmental Disabilities (OPUS) bulletin board [D] PC (no copy charge)

Education/training

AMS (1 disk) – Academic Merit System – Automates the merit review process from WALMYR Publishing Co. [U] PC
BASIC Professor (1 disk), An interactive BASIC tutorial from Eagle Software [U] PC
SCREE (1 disk) – Graphs test scores, from WALMYR Publishing Co. [L] PC
TAS (1 disk) – Teacher Assessment System – Automates feedback process, from WALMYR Publishing Co. [L] PC
***TUTOR.COM** (Ver 4.4)(1 disk) – 9 interactive computer/DOS tutorials from Computer Knowledge [U] PC

Health

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Vocational Rehabilitation Manager (1 disk) – Manages client payroll & records – Demo from Easter Seal Society [D] PC

Mental Health

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MMPI (1 disk) – MMPI scoring demo from Applied Innovations [D] PC

Management

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Fund Accounting Manager (2 disks) – Product demo from Easter Seal Society [D] PC
In-Site Billing (1 disk) – Product demo from Applied Innovations [D] PC
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Welfare

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Miscellaneous Packages and Utilities

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EXSYS (2 disks) Expert System demo from EXSYS, Inc. [D] PC
Pen Pal (1 disk) – Correspondence & encryption system from WALMYR Publishing Co. [L] PC

Demo/shareware/freeware disk order form

To order, circle the names of the software requested. Enclose $5 **per disk** ($7 for non-members) to cover mailing and handling. All disks are 51/4 inch.. Proceeds from disk sales go towards furthering the CUSSN activities. Order from D. Schoech, CUSSN, UTA GSSW, POB 19129, Arlington, TX 76019-0129.

Number of software products = _____ ; Number of computer disks = _____
I enclose: (U.S. dollars only) (Number of disks X $5/$7 per disk =) _____ (foreign countries add $3 for air mail)
Name: _____
Mailing Address: _____
City: _____ State: _____ Postal Code: _____ Country: _____

Articles, Reviews, and Reports

Interview with Wallace Gingerich,

Associate Professor with the University of Wisconsin, Milwaukee, School of Social Welfare, Milwaukee, WI 53201 (March 88).

CUSSN: Tell us how you got involved with computer applications.

W.G.: Well, my first involvement with computers was as a doctoral student doing research, running SPSS on the mainframe. I didn't have much involvement with computers until after that, except for statistical analysis, until the '80s, I guess. Oddly enough, my boys wanted an electronic game for Christmas, (laughter) an Atari. That was the time when Atari had their little computers out and one thing led to another and we got an Atari 800. I just took to that. I really enjoyed programming, etc., and began thinking, there's got to be some applications of this technology for social work. I didn't know what they were but I thought there's got to be something, some way I can relate this to my work. Then I soon began doing some consulting on client information systems for several social service agencies and began doing some designing and implementing the systems myself for some other agencies. I began teaching a course in the School of Social Welfare in computer applications. Things just kind of mushroomed. I became involved in the CUSS network, and set up an electronic node for that. So I was involved in not just the information systems, but also the telecommunications. I'm an avid user myself (laughter) of computers. I do word processing and I'm now keeping my bibliographies on computer. I like to dial into bulletin boards, download utilities and that kind of stuff. With me it's a hobby and also one component of what I do professionally.

The research project I'm working on there has to do with designing what I call a case monitoring and tracking system

CUSSN: You're at the University of Michigan on a sabbatical. What kinds of things are you looking at now that you have the luxury of time?

W.G.: My main interest in Michigan is to look at expert systems and other related computer technologies to see how they can be used in social work. I'm working there on a NIMH Research Fellowship with Ed Thomas and Siri Jayaratne and of course Ed is an advocate of design and development. So I am looking at the development of expert systems in a design and development context. While I'm at Michigan I'm sitting in on some courses in computer science and artificial intelligence. I also sit in on various classes, seminars, and lectures in the Psych Department or the Institute for Social Research, or whatever shows up on campus. It's a wonderfully rich environment. The research project I'm working on there has to do with designing what I call a case monitoring and tracking system. This will be a desktop system that a social worker will have sitting on his/her desk, the core of which will be a database, which will contain information about each client in that caseworker's case load. The information will be designed around what the caseworker needs to carry out his/her job responsibilities. So I'm really thinking of it as an information system from the caseworker's point of view, to support her work, rather than an information system from the agency's point of view to support agency functioning. And then I'm interested in trying to incorporate some decision support or expert system components in the information system for things like advising the caseworker, or the client perhaps, on whether the objective they've selected for treatment is measurable, or are there other ways of defining outcome objective, or are there measures they might want to consider.

CUSSN: Have you looked at case management software? Is there any case management software that you know of?

W.G.: Yes, Paul Sherman in Denver has developed a system somewhat like this for use in aggressive case management of chronically mentally ill clients. His system is still largely designed to address program needs rather than the case manager's needs, however. I understand several industrial engineers at the University of Wisconsin—Madison have developed a similar system for case management with elderly clients. I'm continuing my search to see if there are still other systems out there. I am thinking of my system as a caseworker's assistant. So you would come in in the morning and you turn the thing on and you say, "What do you suggest I do today?" And this system would scan through its records of each client and compare them with a set a of rules it has about which cases should receive highest priority for service. And it might produce a listing, say, John Jones and Mary

Doe or whatever, rank the highest because there is some problem with physical abuse and you haven't had contact for a week and so forth. It might help produce reports, it would prompt the caseworker to put in pertinent information about client progress and that kind of thing. But it should help the caseworker do her work and should stay out of the way. I want the system to be something that fits naturally into the work flow and supports and provides essential information in a timely manner. The benefits really must outweigh the cost to the worker for using the system. So the whole system, I think, really needs to be designed and developed over a period of a year or two, as Thomas would say.

CUSSN: Do you have a practice where you try to use this case management approach or where you're integrally involved with a computer?

W.G.: Well, I have a small case load at a private agency in Milwaukee, but we don't do case management as such. I'm thinking of this more as a tool for use in agencies that work with the chronically mentally ill using case management techniques specifically. I've thought about outpatient mental health practice, but I don't think that's the best domain to begin with because it's too heterogeneous.

CUSSN: So you see each setting having a different case management piece of software?

W.G.: I think the basic architecture would be the same. For example, my guess is that the decision rules one uses to manage a chronic and mentally ill case load in the community are pretty much the same whether it's Milwaukee or Ann Arbor or Seattle or wherever. But I'm also considering a treatment advising component, so the system might advise on what kind of intervention to use given a constellation of factors. If we build in a treatment advising component, then what treatment approach would you build in if it's for general mental health practice? Is it behavior mod, is it client-centered, or is it psycho-social? I'm trying to select a domain, such as case management, where there is more consensus about what kind of interventions are appropriate and what the outcomes are. I want to pick an easy problem to start with and have success on an easy one and then extrapolate.

CUSSN: Where do you think the caseworker will be in five to ten years in terms of technology? Do you see something like you describe actually happening soon, or is it 15 or 20 years down the road?

W.G.: I'm not sure how long it's going to take. I really think it's essential that we take time and care in designing and developing these systems so that the first ones that are put into use fit in with the practitioner's work and they're successful, and they're useful. That will greatly enhance the likelihood that other practitioners will adopt them. But if we kind of sloppily throw something together that's nice technologically, but doesn't help as the practitioner sees it, it doesn't help her do her work, then it could be 20 or 30 years, and it should be. But with technology becoming much more available all the time – not just the hardware, but the software – there's no technical reason why this couldn't be rather widespread in five years. But we all know that technology doesn't necessarily produce innovation. It's more the human factors.

CUSSN: Are you having to study case management also, or are you primarily looking at the technology right now?

W.G.: I think about case management as the first application of the system. The part I am really most interested in designing is using the computer as the technology to provide support to caseworkers in behavioral assessment and single case evaluation. In other words, identifying the outcome objectives that are clinically feasible and practical. And then monitoring them in terms of baseline and intervention, the AB design approach, and using the system to support that. Of course, assessment and monitoring are core case management functions. I am most interested in looking at technologies or approaches people have developed for assessment and for analyzing change in clients and that sort of thing using computer technology. And the expert systems for advising on diagnosis or treatment planning and that kind of thing.

The part I am really most interested in designing is using the computer as the technology to provide support to caseworkers in behavioral assessment & single case evaluation.

CUSSN: Can you visualize an advising system that the case worker will carry with them wherever they go.

W.G.: Yes. It needs to be a system that's available to the caseworker when the caseworker needs it, and for workers who work out of an office it should be a laptop probably. And I would expect those to be very widely available at really minimal cost in another four or five years.

CUSSN: Are you thinking of producing a piece of software any time in the future?

W.G.: My hope is to get outside funds to support the design and development, and if I am successful, then I want to hire a programmer, and this should result in some software probably in several years' time and since it's likely to be publicly funded it would likely be in public domain. The software will run on microcomputers or networks or small minicomputers, something like that. One of the important implementation things is that whatever software we design this in has to be something that can run on a variety of operating systems. Every agency has a different system.

CUSSN: Are you thinking about connecting the software to the agency database?

W.G.: I haven't yet. I'm really thinking of this in my head as a caseworker's own personal assistant. That is a likely future possibility, though.

CUSSN: So it would replace the caseworker's private notes rather than the agency record.

W.G.: Yes. Replace the private notes and contain information that that caseworker would find useful in doing his/her work. But then, when you think about using such systems in an agency, you know, if you have 20 caseworkers, everyone has their own machine. Well, that doesn't necessarily make sense. Then you may go to some kind of a network arrangement as a file server, and each caseworker's data resides on a central hard disk. The next logical step is, well, now that we have all this client specific information, why don't we begin doing some program evaluation? In the actual implementation of it it may look in some ways a lot like an agency level client information system, but the key thing from my point of view is the typical client information system in an agency is not designed to serve primarily the caseworker's day-to-day casework objectives. It's designed for a different set of objectives which are equally useful, but I want my system to be designed to serve specifically the caseworker's objectives. It's still unclear, I mean we need to go through lots of development work with casework staff to find out exactly what it is they would find most useful. I have my ideas about it, but I may be off base.

CUSSN: Would it be more time-consuming for the caseworker to replace what they're doing now with some sort of computer system?

W.G.: Well, if it is, it's not going to work. So I need to pay a lot of attention to what they do now as far as gathering information, or planning, or deciding what information to gather. Who records that information? Does the caseworker record it or does the client, or does an intake interviewer record it? Each agency would have somewhat different practices but this system has to fit in with that agency's work pattern in such a way that it facilitates it. If it adds work to the agency it still might be acceptable as long as the products of the system are considered valuable enough to justify it. But if it's just duplicating what they do, that's not going to work.

CUSSN: Do you see the client taking some responsibility for information collection?

W.G.: Yes. For example, one of the agencies in Milwaukee that does case management for the chronically mentally ill has some of their clients fill out a paper and pencil form, but some are too disturbed to do that, in which case the caseworker does it. There's no reason really why clients that are able to do it themselves couldn't sit down at a terminal and enter that in on the terminal. Then it's already entered; no one else has to do it. And the ones that aren't able, the caseworker would sit down at the terminal, rather than filling out a paper and pencil form and entering that in. There has to be a lot of data entry to support case management and evaluation functions, but it needs to be done in a way that eliminates duplication as much as possible.

CUSSN: Is there a fear by caseworkers about the availability of all this information, that someone will evaluate whether another worker would have handled the same case more efficiently or less effectively. In a sense, people don't like to leave paper trails, because somebody can use them to get at one politically.

W.G.: Yes, I think there is that fear. I think the proper way to deal with that is to examine how information is used in that agency. If technology provides more information and information is used against staff, then, in my opinion, staff should resist generating more information. However, if the information in that agency is used in a way that supports effective service, or perhaps is even used to reward good casework practice, then I would expect those staff would be interested in improving their information system. So I think it's important to have both management and line staff who will be using the system involved in its development. The system has to support the agency's function and work. I don't think the system should be expected to change how the agency does its work, nor should it be expected to change how information is used, really. This is just a technology approach serving what the agency does.

CUSSN: Have you thought about ways to protect the worker who uses your system so that something like that doesn't happen? For instance, the information being used against the worker, or not in the best interests of the worker.

W.G.: Well, no. My approach to that is that if the information that the worker finds useful in doing her work might also be used against her by agency administration, then I don't think I can effectively design a system that will provide her that information yet keep it from the agency. I really don't. I think that would be a bad solution to a serious problem. The real solution is that the agency has to come to some better resolution of how information is used in the agency.

...if the information that the worker finds useful in doing her work might also be used against her by agency administration, then I don't think I can effectively design a system that will provide her that information yet keep it from the agency.

CUSSN: Right now the caseworker jots down notes which are unintelligible to anybody except themselves. In a sense those are private notes and no one else looks at those. If you jot those down in a computer they are very intelligible to everybody.

W.G.: I don't really foresee that this system would contain those kinds of personal notes. I see it more as containing information on specific outcome of objectives. If an objective for a patient is "to become employed and live independently and develop adequate independent living skills," and there are objective indicators of those, then that information is what should be in the system, not necessarily the personal case notes or anecdotal information.

CUSSN:

But you're saying management needs to change to be able to handle casework in an information rich setting?

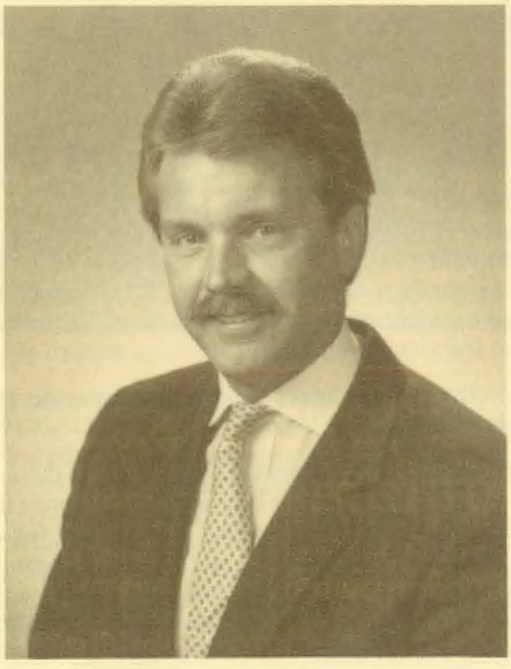
W.G.: I don't know if management needs to change. It might in some agencies, but in one of the agencies I worked with in Milwaukee they keep information very similar to what I've described, behavioral data on each kid in their program, and the program coordinator or director uses this information to identify kids that aren't making expected progress toward goals. The assumption is that something's not working right, so he uses that information to go talk to the treatment team and say, "What's going on here? What do we need to do? Do we need to adjust treatment, or stay with what we're doing, or what? I think the staff were a little uneasy with that initially, but now they are all clamoring to get to the terminals to enter the information because it helps them do their work, and the information is not being used against them. At that agency, the thing about how can social workers protect their information from management is really not an issue because it's not being used against them.

CUSSN: What do you see happening in knowledge development and expert systems in the future?

W.G.: The main thing about expert systems that interest me is the knowledge development, or knowledge representation as the expert systems people talk about it. In other words, different structures and languages are used to represent complex knowledge about problems in such a way that computers can use that knowledge to solve problems.

There is a lot of expertise in social work that experienced practitioners have developed, for example, which is very difficult to transmit because it is poorly described.

As those knowledge languages and knowledge representation schemes develop and are refined, I think there is increasing likelihood that we can represent the kinds of complex things we do in social work in these languages, and once we can do that then computers can help us even more with our work. Another thing I find useful is the way expert systems represent knowledge about a problem domain in the form of rules. This is a very effective and facilitative way to represent knowledge. Once you've described it, it helps you identify where gaps are or areas of knowledge that might conflict with each other. So in some ways it is useful for clarifying and elaborating theory. I think the techniques that are being developed to elicit this knowledge, or "mine" it as they call it, to extract what an expert knows about a problem, are also potentially useful for other purposes. There is a lot of expertise in social work that experienced practitioners have developed, for example, which is very difficult to transmit because it is poorly described. To the extent that these knowledge languages and knowledge acquisition techniques can help us extract that practice wisdom and represent it in objective ways, then I think it has the potential for helping us be more clear and procedural about what we know. It's the knowledge representation and knowledge acquisition aspects of the expert system work that I think are in some ways potentially most exciting.§



OHDS wants to be more on the cutting edge of what's going on at the community level, in non-profit agencies and have an opportunity to help support efforts to develop microcomputer applications

Interview with Robert Neilson,

Director of Programs Systems and Evaluation, U.S. Department of Health and Human Services, Office of Human Development Services (OHDS), Washington, D.C. 20201 (May 88).

CUSSN: Bob, What is your role in human service technology?

B.N.: One of our primary functions is to fund R & D projects which advance the state-of-the-art in computer usage for human services programs, primarily for those programs under the auspices of the Office of Development Services which include Child Welfare, Foster Care, Social Services Programs, Aging, Developmental Disabilities, and Native American Programs.

CUSSN: So you fund the cutting edge advancements in human service technology?

B.N.: If funds are available, we fund cutting edge projects. Besides that we also have approval authority for any Child Welfare systems that use Federal Title IV-E or IV-B (Social

Security Act) funds. We still maintain that approval authority.

CUSSN: From your prospective, what types of systems are being developed? What do you see happening?

B.N.: OHDS made an investment in microcomputer technology starting in 1982 when we funded several different software developmental efforts, in '82, '83, and '84 for use on microcomputers. Our philosophy at that time was to invest Federal R & D dollars in microcomputers, develop an application and transfer it to the different sites. The days of investing in large scale mainframe type systems for State governments are over. If States want to invest in their large statewide systems that's great, we encourage them to do so, but OHDS wants to be more on the cutting edge of what's going on at the community level, in non-profit agencies and have an opportunity to help support efforts to develop microcomputer applications. We're not too interested in writing software from scratch. There are enough portable computer languages available to develop an application as an overlay on a DBMS program, or on a spreadsheet package, etc.

CUSSN: You mentioned large organizations and microcomputer technology. Have you had experience with local area networks in some of your applications?

B.N.: We really haven't funded any simply because of lack of funds, but we encourage the development of local area networks only if an agency has had several years' experience with freestanding microcomputers or microcomputers that are networked into a larger system. Going out and developing a local area network with little or no experience with micros could be very, very dangerous. Without experience, chances of an agency succeeding in putting in a LAN would be slim. One simply needs the discipline of operating a freestanding microsystem or a multi-user system before installing a LAN.

Going out and developing a local area network with little or no experience with micros could be very, very dangerous.

CUSSN: Who are the typical users of the applications that you're looking at?

B.N.: Mostly local agencies. For example, yesterday I had a call from a county social service agency in New Jersey. They were looking for an Accounts Receivable/Accounts Payable accounting package designed for a county non-profit agency. We had funded an effort to develop an accounting package and I gave them the telephone number of a group that now markets that software package. The initial R & D work was supported with some Federal money. We try to have local human service agencies use the best tools possible to do the job and that in many cases involves microcomputers and microcomputer applications.

CUSSN: Did many human service vendors start with money from the government?

B.N.: Some of the microcomputer human service applications started with an initial investment made by the Federal government, specifically the Office of Human Development Service. I think the investment motivated people to start developing things on their own. Many of the computer vendors, however, have not made a requisite investment in social services programs. They have focused on Welfare and Medicaid programs. That's where your larger dollar volumes are and that's where they concentrate their marketing efforts. They have not made an investment in social services. After discussion with vendors, they usually reply that the social services market is not big enough to make a long term corporate investment in computer application. Simply put, the money is not there, and therefore they don't concentrate on it.

After discussion with vendors, they usually reply that the social services market is not big enough to make a long term corporate investment in computer application.

CUSSN: Have the many software vendors been started as outgrowths of your projects?

B.N.: Some of them are outgrowths. We have funded some development projects in '82 through '85. One of our R & D projects which was not specifically a software effort, Flagship Project, proved to be very successful. It was a public/private partnership with the United Way of America's national office. IBM donated some microcomputers, and Exxon put some money into the development of Flagship. The purpose of this public/private partnership was to secure service and cost information at the local level regardless of funding source. Local communities could then calculate service and cost projections for human services at the community level.

CUSSN: Do you see many non-profit/corporate efforts occurring now?

B.N.: Hopefully there are going to be more of them. We really don't know what is totally going on out there in the field regarding non-profit/corporate efforts The Office of Human Development Services or other organizations, should do a survey to find out best practices; determine what applications have been successful in the field; document them; and, then disseminate them. They should be disseminated through newsletters like the CUSS newsletter, and presented at conferences. In addition, the results can be put up on electronic bulletin boards to get mass distribution.

CUSSN: Do you think there is a lot of the "re-inventing of the wheel?"

B.N.: There probably is. A lot of folks do not belong to organizations that publicize some of the more salient microcomputer applications that are in the field. I don't know how many members are in the CUSS network, but it's

growing – many local agencies do not have money to travel either to regional or national conferences to information regarding micro applications, but I am always encouraged that people are willing to make a couple of telephone calls either to a Federal regional office, a university, or to another source to find out if there is an application that will meet their needs. So I am encouraged. As previously mentioned, the gentleman from New Jersey who inquired about an accounting package was referred by my office to two or three different packages that are available. Consequently, they don't have to develop their own. If they did develop an accounting package, it would cost them anywhere from $10,000 to $20,000. The package that is now commercially available, developed with Federal money, can be secured for $495. So there is a definite cost savings.

CUSSN: What do you see happening in the next 10 years?

B.N.: Well, that's a difficult question to answer. I would like to see more investments in Expert systems. As we all well know, it will be difficult to get trained staff to address human services needs. Retention of staff is also going to be a problem. Therefore, Expert systems are going to be needed to get workers up to speed. For example, in the Child Protection area, workers need to make educated decisions in cases of child abuse and neglect (i.e., to keep the child in the house or pull that child out of that house, depending on circumstances). Expert system could help in those situations. In other areas, I would like to see more local area networks as we chatted about before. Sharing of information across agency lines as well as within agencies is very important. Just a general proliferation of microcomputers for use as analytic tools within the human services is very important. I think we are going to see a progression of local agencies getting microcomputers, using them initially for word processing, discovering that they can put up a spreadsheet and do some of their accounting on it, and then discovering the use of database management packages.

CUSSN: In terms of the Federal role vs. the state and local roles, do you see them changing?

B.N.: As you know, we're in an election year and I do not know what the long term Federal role is going to be in this area, but what I would hope to see is as follows: I would like to see the Federal government once again take a leadership position. We do have a role to play. It may not necessarily be with large amounts of R & D money, but it may be to try to encourage public/private partnerships at the local level. The Federal role may be to stimulate symbiotic relationships between the public and private sectors and the computer industry. I'd also like to see more of the Foundations involved in the human service business. There is a limited amount of money available for R & D, consequently there should be more cooperative developmental efforts between Foundations, the Federal government, local agencies and vendors.

CUSSN: Why are the cooperative efforts you're talking about not occurring? Is it that people are not able to see beyond their own agency, or does it take too much effort to take a cooperative approach?

B.N.: I think it's the lack of Federal leadership at this point. There needs to be a greater push to get people out into the field to find out what's going on, determine what applications work, and then through Federal leadership, solicit cooperative ventures with interested parties. I think that's an area that the Federal government should be involved in, exhibiting that leadership in the human services community. By the human service community I mean the Federal government, State government, local governments, non-profit organizations, and universities involved with human services and human services administration.

The Federal role may be to stimulate symbiotic relationships between the public and private sectors and the computer industry.

CUSSN: You talked about some of the principles we need to re-examine or to rediscover. Have you all come up with any principles of good practice over the last 10 years?

B.N.: One possible rule of thumb is "when automating, spend 10% of your money on hardware, 40% of your money on software, and 50% of your money on training." No application is going to be successful unless you have the people who are trained in how to use it and how to advance it. That, to me, is one of the key principles or rules of thumb that everyone has to realize in the human services or business sector. You have to make a requisite investment in training. Use your existing channels of communication, and your informal organizational network. Professional organizations can help you. Universities are also a resource that can help you. A friendly call to a Federal Regional Office may help, or they can refer to someone who has more information. If you can attend a national or regional systems related conference, do so; meet people from other agencies, attend the sessions; and most importantly attend the social functions so you meet people, so you can call them when you have a problem.

One possible rule of thumb is "when automating, spend 10% of your money on hardware, 40% of your money on software, and 50% of your money on training."

Lastly, use all of the public telecommunications networks that are out there to exchange ideas. You'll "hit" an entire network of people. You can put up a question on a bulletin board and maybe somebody can give you an answer. You don't have to spend a lot of money on a specific application or a piece of software to address your needs. You may just get the application you need by using formal and informal channels of communication.§

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Killing Viruses, by Lee Kemp, Communet, c/- 66 Raleigh St, Thornbury, Victoria, Australia 3071,

Editor's Note: I am including parts of Kemp's article because it lays out the extent and complexity of the problem and a possible solution. Many human service professionals use bulletin boards etc. to obtain software. As with medical staff working with human viruses, BBS sysops take risks with their computers in operating a BBS and in trying to keep virus free files for their users. One CUSSnet sysop recently said he was planning to close his BBS, because he had personal files on the computer which operated his BBS and he could no longer guarantee that his personal files would be safe. The risk to his professional work was just too high!

This article is excerpted with permission from FidoNews Vol 5, No. 26, Page 9, 27 June 1988. Comments and help are welcomed by Lee. Reply to Fidonet Net/Node 1:221/162.14, or UUCP address watmath!isishq!Lee_Kemp. Those interested in an electronic conference on this topic should contact Doug Thompson, Fidonet Net/Node 1:221/162 or watmath!isishq!doug.

Introduction

Numerous utilities have been released for detecting "virus" programs before they damage hard disks or get passed on.

Unfortunately this won't work. Existing viruses will continue to spread from diskettes already infected, and will re-infect computers that have been through it before. New more virulent strains will be developed to overcome each new detection utility released (perhaps by infecting the utilities themselves!)

I believe I've figured out a method that WILL work. The World Health Organization managed to stamp out smallpox through a coordinated international campaign and I believe we can do the same for ALL computer viruses - but it will require a coordinated campaign.

This article lays out the basic idea and asks for help. Help through any constructive criticisms or alternative proposals, help through negative, destructive "flames" if the idea is all wrong, so I'll stop wasting time on it, and help from any software developers willing to "send code".

However I am not interested in corresponding about whether destructive Trojan viruses actually exist and whether they will become a serious problem. It's far too late to be discussing THAT.

First, some reasons why it's worth working on the solution I propose.

There is NO way to detect viruses

None of the methods currently used have the SLIGHTEST chance of detecting a reasonably well designed Trojan, let alone a genuine virus. Tests that are just done when software is first received, and just consist of running a utility over it once, or installing a TSR monitor, are ALREADY completely useless.

Any jerk can write a Trojan that won't do anything suspicious while it's being tested, and the test utilities themselves are likely to be a target for more sophisticated viruses.

Ideas like continually monitoring disk writes are ok for the first generation of Trojans but simply won't work with the next generation. Actually they will become positively dangerous. A virus could simply recognize the particular TSR that's monitoring it, grab the interrupts back, and send reassuring messages to the SysOp, while it doesn't even bother to WAIT before starting to infect other software! A false sense of security is MUCH worse than the knowledge that anything you make available for download COULD be a virus.

Source code for IBM ROM BIOS is available in the Technical Reference manuals for anyone who wants to write Trojans that access disk controllers directly. Also there are ways to do apparently "legitimate" disk writes that do no immediate damage but can trigger an infection later.

Any jerk can write a Trojan that won't do anything suspicious while it's being tested, and the test utilities themselves are likely to be a target for more sophisticated viruses.

Much more sophisticated approaches to delayed action are available than using the DOS date function.

Checksums of operating system files and their dates and times are easily bypassed.

Proper testing requires at least the sort of insulation from the hardware and operating system that is provided by a 386 running in virtual 8086 mode. Worse, there are even ways around THAT, which I won't go into here.

Anyone familiar with the secure design of operating systems understands that there is NO way an application program can be prevented from doing whatever it damn well pleases when the underlying CPU hardware doesn't run in a protected mode. OS/2 and Unix run in a protected mode but MSDOS normally doesn't, and CAN'T on XTs and ATs.

Even protected mode isn't enough, given the practical realities of normal security precautions. Controlled experiments with Unix viruses have achieved root privileges in less than an hour, with an average of 30 minutes. (F. Cohen, "Computer Viruses: Theory and Experiments", University of Southern California, August 1984, cited in Wood and Kochan, "Unix System Security", Hayden Book Company, 1985)

The SERIOUS work in computer security is being done on how to protect a system when you have complete source code for everything run on it - and THAT is damn difficult. ADA and Pascal are languages intended to allow you to figure out what the source code actually does, but C is the language of micro applications and it's designed for efficiency, not correctness proofs. Take a look at the fast table driven CRC routines used in most FidoNet mailers these days. How many C programmers have the faintest idea what they ACTUALLY do?

Serious computer security work also deals with problems like "compiler viruses", that install themselves in any software compiled, including new versions of the compiler. Who REALLY knows what's in most microcomputer object code - not even the authors!

There is NO serious work being done on protection from real mode applications running on 80x86 machines. Because it SIMPLY CAN'T BE DONE.

Now sit back and think about the implications of that for 3000 FidoNet nodes around the world continually exchanging software with each other and their users! This network

can spread a deadly virus around the world within DAYS (if not hours).

We don't have time for testing

ANY partially useful testing system for the next generation of viruses would require tests EVERY time a copy of ANY software is made available for distribution, and fairly elaborate procedures to ensure the testing is done on an uninfected machine with uninfected test utilities.

Even factory fresh diskettes from major software houses have ALREADY been infected, so what's to stop the latest upgrade of some commercial package infecting a machine that's been carefully kept "clean"? Even Harvard couldn't persuade Lotus to let them retain their policy of ONLY running software for which they had compiled the source code themselves.

BBS SysOps just don't have the time to properly test files they make available for download, even to detect fairly crude Trojans. Neither do end users. Even PARTIALLY useful serious tests simply won't be widely used until AFTER there has been some MAJOR damage done. The time wasted on serious testing will then be almost as damaging as actual loss of data.

BBS SysOps just don't have the time to properly test files they make available for download....neither do users.

Why It's Urgent

"Computer AIDS" is likely to have as devastating an effect on BBSes and FidoNet as the original AIDS has already had on gays, and is now having on the wider community. Unless something is done NOW, we are CERTAIN to eventually be hit by some really deadly virus that has been spread to literally thousands of public access BBS systems through FidoNet and will then, months later, cause literally millions of dollars worth of damage to data on literally tens of thousands of user's hard disks. The problem is THAT serious.

Apart from jerks, there are economic interests that actually stand to GAIN from destructive viruses, because public domain software, and the "sharing" of other software that often occurs among people who use public domain software, directly competes with their own commercial interests.

As Nicholas Rothwell points out in his article on "Computer AIDS":

But what if one does not want to create trouble, but rather to destroy trust? For that is what is at stake. Without open communication, without "public domain" software, without free exchange of academic and technical software, the personal computer revolution is hamstrung.

There are plenty of technically competent people in FidoNet who are out to destroy trust and are opposed to open communication. I'll be going into that in a later article.

Last month a report for the European Commission issued a formal blunt warning that computer networks across the member nations of the European Community were not safe:

Unless action is taken to improve levels of computer and network security, the consequences for individual enterprises could be severe, even catastrophic.

For FidoNet the consequences would be catastrophic, not just "severe". It is one of the world's largest computer networks, but with virtually NO security and LOTS of jerks.

If the countermeasures aren't in place BEFORE major damage is done, there will be an atmosphere of incredible paranoia about using ANY software from BBSes and user groups. It could even be quite difficult working on solutions in that atmosphere. Also interests opposed to public domain software and the free exchange of information could take the opportunity to impose regulation and controls on a VERY unpopular minority.

What Is To Be Done?

Fortunately there IS an approach that CAN stop viruses, and COULD be widely used as soon as it's available. I hope I've given enough reasons for people to take a serious interest in my proposals despite their unfamiliarity. Here goes.

The way biological immune systems develop antibodies to attack foreign bodies is to first identify what SHOULD be present and then deduce what should not. We can do that using "digital signatures" just as the immune system recognizes molecular signatures.

Since there is NO practical way to determine whether unknown software is a virus or not, the ONLY feasible approach to "safe software" is to identify KNOWN software and use nothing else.

The logic of that is both compelling and frightening. It has already led to quite serious restrictions on the "promiscuous" way that people exchange software. If the current trend continues, open BBSes will become less and less viable and the "free exchange of information" will be replaced by tightly controlled distribution channels.

AT PRESENT the only way to identify "known" software, is through writing and compiling it yourself, or buying it from a commercial distributor in a shrink wrapped package. Even these precautions aren't worth much against compiler viruses and given the level of security at most software publishers.

Turned around, the same logic suggests we need to find another way to identify "known" software. Fortunately there IS another way, suitable for BBS public domain and shareware software.

...we need to find another way to identify "known" software

Authentication by digital signature

Software authors and publishers can use public key encryption or other digital signature techniques to authenticate their software releases with their personal "signature". This merely requires that they run a standard encryption utility on each package before distribution. An explanation of how public key encryption works is in FidoNews 428.

Authentication is the key to killing viruses while preserving the free exchange of information. It doesn't actually kill

them, but it provides a way we can only use "known" software WITHOUT tightly controlled distribution channels.

Essentially the use of public key digital signatures just establishes that any two items that can be decrypted with the same "public key" signature MUST have both come from the same person. It's that person's personal signature and there is no way that anybody else could "forge" it. Because an item can be decrypted with a particular public key, it must have been encrypted using the corresponding "secret key" that was generated simultaneously with the public key by the person who published that public key. Since this "secret key" cannot be deduced from knowledge of the public key, the person who encrypted using it must therefore be the person who published the original public key (unless they let somebody else get hold of a copy!) A digital signature doesn't prove who the person that uses it really is, or how trustworthy they are, or whether they originally wrote the document they are signing. But it DOES allow each software author (or other distributor) to establish their own "reputation".

A digital signature ....allows each software author to establish their own "reputation".

In practice most users won't want to keep the public keys of large numbers of software authors and publishers, and new authors and publishers need a way to get their software accepted. This requires intermediary "recommenders" and "software certifiers" who publish "signed" lists of signatures which they recommend as trustworthy, or reissue software they trust under their own "signatures". They may also issue signed "warnings" about infected software they have come across, and who signed it. Some SysOps and user groups may want to advise their users which signatures they personally recommend as trustworthy. That's up to them and it's up to their users what notice to take of their advice.

Some software collectors may want to keep close tabs on who releases what, and reissue copies under their own signature as evidence that they consider an item to be uninfected. That's equivalent to the responsibility that anyone takes now, when they pass on a copy of ANYTHING to anybody else. A valuable service can be performed by such "software certifiers". When things settle down, end users should be able to rely on relatively few signatures, and with the side benefit of automatically produced catalogs of software available.

It's very important that there be convenient ways for recommendations and warnings to be passed on and accepted or rejected automatically according to user's preferences as to which advice they consider trustworthy. It's equally important that there be no central authority who is the sole source of such advice. It IS possible for such "advice" to be processed automatically, by users, with no hassles, despite coming from a multitude of sources. I'll explain that later. The essential point is that we ALL rely on such advice and recommendations now, including published lists of Trojans. The difference with my proposal is that we can automate it and know where it's really coming from. More important, we can know which software EXACTLY is being recommended or warned against.

Instead of lists warning about certain utility names and version numbers, we will see (automatically processed) lists warning about signatures. Although anybody can just adopt another signature, getting other people to accept it will be a lot harder than just using the RENAME command on a Trojan! Life will actually be EASIER for SysOps as a result.

Implementation

All encrypted files would have a standard header including the public key to be used (about 150 bytes). Decryption software can look up the key (or a shorter hash of it) automatically in a user's database of acceptable keys. Thus to decrypt a file, users wouldn't even have to specify keys along with filenames. To decide whether to trust some software, users wouldn't have to look up their database manually. The key is either there or it isn't, when the decryption software tries to process an encrypted file.

Initially trusted signatures could be in standard format files called PUBLIC.KEY, similar to individual nodelist lines. These would normally be obtained direct by downloading or file request from the trusted phone number contained within them.

Acceptance of those initial signatures as trustworthy would result in automatic acceptance of subsequent files containing recommendations or warnings signed with those signatures - until the end user decides otherwise. After decrypting the recommendation or warning the software would automatically apply to the user's keys database.

Standard formats similar to the St Louis nodelist can be used to distribute (signed) lists of recommendations and warnings about particular public key signatures. Utilities similar to MAKENL and XLATLIST (but with a "user friendly" interface) can be used automatically together with the encryption software, to produce customized end user databases of what signatures they will automatically accept or reject.

End users just decide on a few signatures they INITIALLY consider trustworthy, and then simply pass any encrypted files they receive, whether software, recommendations or warnings, through their encryption utility to automatically update their keys database as well as to decrypt the software recommended by people they trust and not warned against by people they trust.

End users just decide on a few signatures they...consider trustworthy, and then simply pass any encrypted files...

The main complication for a full protection system is to avoid the encryption utilities and key databases themselves becoming infected, despite end users not fully understanding what it's all about.

This can be achieved by writing the software so it HAS to be used in a secure way, e.g. coldbooting from a "safe" floppy, encouraging floppy backups of the encrypted versions of all software that is accepted, and keyboard entry of checksums of PUBLIC.KEY files.

I'm drafting some proposed standards, specifications and end user instructions for immediate and future software development. Anyone interested in details of these proposals please file request CRYPLIST from 1:221/162 for a list of what's available so far. If anyone can suggest a simpler approach that is foolproof, or can see loopholes in this one, please send NetMail to me at 1:221/162.14. Likewise for anyone interested in working on software and standards. I'd like to start an echo, AREA:PUBKEY, for serious discussions among interested software developers. It really has to happen NOW.

Possible Problems

Legal Hassles

The US National Security Agency has a policy opposed to the widespread use of secure encryption techniques and has classified some commercial public key encryption packages such as Cryptmaster and PKcrypt as "weapons" subject to munitions export controls. However this does NOT apply to publicly available information including shareware and public domain software available for download from BBSes (although some people have been bluffed into believing it might).

The U.S. National Security Agency has a policy opposed to the widespread use of secure encryption techniques...

Under the US Export Administration Regulations there is a General License "GTDA" (part 379.3) which covers all such publicly available technical data and is NOT overridden by the munitions regulations (logical when you think about it - the US Government is not so silly as to even TRY to prohibit export of publicly available data!). Full details for anyone interested are contained in a USEnet discussion as file GTDA.ARC (10K) available for file request from 1:221/162.

Books containing detailed algorithms are readily available and public domain or shareware source code would be in the same category. (Some has already been released through BBSes and USEnet).

I would recommend the following books for a thorough professional understanding of secure cryptographic techniques:

Alan G. Konheim, "Cryptography: A Primer", John Wiley & Sons, New York, 1981.

Carl H. Meyer and Stephen M. Matyas, "Cryptography: A new dimension in computer data security", John Wiley & Sons, New York, 1982.

Is Public Key Encryption Secure?

Most digital signature techniques rely on the computational difficulty of factorizing large composite numbers. This problem has defied mathematicians for some 200 years but has not been proved cryptographically secure or even "NP complete" (a measure of computational complexity which does NOT prove cryptographic security). There is some indication that these methods CAN eventually be cracked or MAY have already been cracked, with the results classified.

Fortunately this problem need not concern us unduly as it is unlikely that a major breakthrough in higher mathematics will first come to light as a result of its discovery by someone warped enough to want to launch destructive viruses! (Not that some mathematicians aren't pretty warped, but they'd probably prefer to take the public kudos for announcing the solution!)

If new developments make any particular digital signature system insecure, alternatives are available and can be implemented quickly. (Unlike virus detection programs which just simply won't work AT ALL against the next generation of viruses.) Standards for file headers etc. should provide for later upgrades. The main thing is to have the machinery in place for when it's needed, and improve it later.

Developing End User Software

Some pretty neat software will need to be written quickly for end users automatic key databases and tracking etc. It has to end up being a lot more professional and "user friendly" than most public domain and shareware software and provide lots of extra benefits like software cataloging, to gain wide acceptance BEFORE a disaster hits.

Some pretty neat software will need to be written quickly...to gain wide acceptance BEFORE a disaster hits.

That's why I wrote this article. Now who's going to do the hard stuff?

Oh well, there it is. Sorry about the length, but if nobody pays any attention, guess who'll be saying "I told you so".§

Are you developing or using

Computer games?

If so, others need to know of your work.

Hy Resnic, the developer of BUSTED, is pulling together a special issue of the Journal Computers in Human Services on Computer games. For details, see the Member Comments and Activities section of this issue. Hy is interested in corresponding with game users and developers. If you are interested in getting your work published in this special issue, contact Hy at:

U. of Washington
4101 15th Ave. N.E. JH-30
Seattle, WA 98195

Member Activities

Articles Needed for Book on Computer Games from Hy Resnick, Professor, School of Social Work, U. of WA, 4101 15th Ave. NE, JH-30, Seattle, WA 98195

I'm pulling together a special issue for CUSS which will also be published as a book by Haworth Publishing Co. on Computer Games in the Human Services and I'm interested in hearing from human service practitioners, academics, and others who are doing work in this area. In particular, I would like to hear from those of you who are or have been engaged in the process of developing computer games, especially if they are designed for human service purposes. But I also welcome hearing from computer types who are developing computer games which might be adopted for human service purposes.

To give you some idea of what I'm trying to do in this book, I will first introduce human service readers to the growing but still small field of human service computer games and by so doing encourage the development of sophisticated (therapeutically and technically) human service computer games.

The next section will identify and briefly describe human service computer games already published. Following this, the bulk of the book, will be a number of articles describing human service computer games not published (or not published in human service journals) for youth, adults, and the elderly. Most of the games will be intervention oriented but some will be designed for diagnostic purposes. A final section will be devoted to articles on designing, developing, processing, and marketing computer games. This might be for persons outside of the human service field. The last chapter on implications for research and practice will complete the book.

Bitnet Addresses from Walter Hudson & others

Note: The following E-Mail addresses are collected from various sources. Be aware that some are bitnet, some Janet, some internet, etc. Thus, they may not always work as anticipated.

SANDEFUR@WISCCDE = Gary Sandefur, U of WI, Madison
ATAMN@ASUACAD = Ann Casebolt, Arizona State U, SSW
sheldon_danziger@um.cc.umich.edu = Sheldon Danziger, U of Michigan
JORME@UMAB = John Orme, U of MD, Baltimore
EAUMB@HUJIVM1 = Menacham Birnbaum, Hebrew U, Israel
NJS480@ALBNY1VX = Nancy Smyth, Soc Wk, SUNY, Albany, NY
MCETINGO@UTMEM1 = Maummer Cetingok, Univ of Tennessee
FINNAN@KGJGF = John Finnan
PA108458@UTKVM1 = Charles Glisson, Univ of Tennessee
ZCVY@CORNELLC = Tom Hanna, Cornell University
B947DJS@UTARLVM1 = Dick Schoech, U. of Texas, Arlington, TX
KIRKHUD@FSU = Kirk L. Hudson, Florida State University
PA113758@UTKVM1 = Carmelo Cocozzeli, University of Tennessee
MCFADDEN@UTORONTO = Rob MacFadden, Univ of Toronto
ASCHWART@UMAB = Arthur Schwartz, U of Maryland
INMATE@UMAB = Harry Chaiklin, Univ of Maryland
MLSGSW@RITVAXD = Marshall Smith, Rochester Instit of Tech
S_TOOLE@vax.acs.open.ac.uk = Stuart Toole, Birmingham Poly, UK
ELFJ@CRNLVAX5 = Richard Reinoehl, Ithaca, NY
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EAURA@HUJIVM1 = Aaron Rosen
paul_a_wilson at um.cc.umich.edu = Paul Wilson, U. of Michigan
F78@TAUNOS = Giora Rahav, Tel Aviv U, Israel
V380KZGM@UBVMSA = Denise Bronson, SUNY, Buffalo, NY
8421427@UWACDC = Anne Nicoll, University of Washington
XNVBUA04@SERVAX = Barry University, School of Social Work
AICWL@ASUACAD = Craig LeCroy, Arizona State U.
LREISMN@CALSTATE = Sorel Reisman
AIWWH@ASUACAD = Walter Hudson, Arizona State U.
WLAMENDO@DUCAIR = Walter LaMendola, University of Denver
125455 = @UWACDC = Paula Nurius, U. of WA, Seattle
LETTIE@USCN, Lettie Lockhart, U of Georgia
SOCW44 = @UHUPVM1 = Paul Raffoul, U. of TX at Houston, Tx
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Kmillar@lauadmin.netnorth = Ken Millar, Sudbury, Canada
SOCIBQ@HLERUL2 = Hein de Graaf, Netherlands
Wallace@cds4.milw.wisc.edu = Wallace Gingerich, U of WI at Milwaukee

Resources

Electronic Information Resources

COMPSYCH is a computerized software information service for Psychologists being developed by Margaret Anderson and Peter Hornby at SUNY Plattsburgh and David Bozak at SUNY Oswego. The system provides:

- A catalog of descriptive information about available software
- A directory of software users
- A message system for sharing information among users, and
- An announcement service for conferences, job openings, and other information.

COMPSYCH is accessible via modem 518/564-3372 (8 data bits, no parity, 1 stop bit), via electronic mail (bitnet = COMPSYCH@SNYPLABA.BITNET or by hard copy request. There is no charge to users or to software developers or publishers. For details, write COMPSYCH, Dept. of Psychology, State U. of New York, Plattsburgh, NY 12901. Include a stamped envelope for reply.

IBM National Support Center for Persons with Disabilities is a focal point for employers, educators, rehabilitation and health care professionals, agencies and vendors. It provides the names, address, telephone number of companies and a brief description of adaptive aids, programs, and resources in the areas of visual impairments, speech and hearing limitations, physical and orthopedic impairments, and learning disabilities and mental retardation. Contact the resource center at P.O. Box 2150, Atlanta, GA. 30055 (800) 426-2133 or in Georgia, (404) 988-2733 (voice) or (404) 988-2729 (TTD).

Special Education Software Center offer free technical assistance on special education software, issues and software design. Contact the Center at SRI International, Room B-S312, 333 Revenswood Ave., Menlo Park, CA 94025 (800) 223-2711 or in California (800) 423-1199.

A Data Base, 1987-1988 Edition by Joseph C. Clancy, Ed.D., 97 Manchester Road, Newton Highlands, MA 02161, 617-969-2614 is a source for all computer-using educators in public school systems, agencies, and clinics be they teachers, specialists, or administrators responsible for children under P.L. 94-142, and/or P.L. 99-457 and the education of all handicapped children. It lists over 325 software programs and resources for the AppleII series computer. The Database includes resources in the areas of: reasoning skills, personality assessment, IEP Managers, IEP goals and objectives, memory training discipline, stress reduction/relaxation training, bulletin boards, hot lines, software directories, free services, instruction in basic skills/literacy, self productivity tools, bi-lingual assessment, early childhood, health, GED and standardized test score builders, speech/language assessment, language enrichment/development, test generators, learning disabilities, study skills, learning styles, etc.

It includes complete software title and resources by name, a full annotated description of what the program does, age/grade usages, prices, vendor names, locations, 800 numbers, ordering instructions, terms and conditions of purchase, etc. Hard copy and disk versions are available.

Newsletters, Magazines, Journals

Society for Computers in Psychology Newsletter, is a newsletter from the Society for Computers in Psychology. Dues are $8 per year. Write Jonathan Vaughan, Hamilton College, Dept of Psychology, Clinton, NY 13323.

Augmentative Communication News is a bi-monthly newsletter which tracks issues, clinical and administrative practices, and technologies in augmentative communications. Available from One Surf Way, Suite #215, Monterey, CA 93940 at $37/yr.

Assistive Device News is a newsletter from the Pennsylvania Assistive Device Center, Elizabethtown Hospital and Rehabilitation Center, Elizabethtown, PA 17022

Healthcare Information Management is a quarterly magazine of the Healthcare Information and Management Systems Society of the American Hospital Assn. Write 840 North Lake Shore Dr., Chicago, IL 60611

CRT News is a newsletter from the Center for Rehabilitation Technology, 117 VR, UW-Stout School of Ed. and Human Services, Menomonie, WI 54751 (715) 232-2232.

Software Law Bulletin is a newsletter to keep readers up to date with the latest issues and cases involving software law. Write at POB 25040, Honolulu, Hawaii 96825-9963.

Books and Reports

A Review of Fund Raising Software Packages for Nonprofit Organizations from the Center for Nonprofit Management, Inc., Technology Learning Center, 2820 Swiss Avenue, Dallas, Texas 75204, (214) 826-3470. Contents include: Introduction, p. 1; How Does Donor Management Software Work? p. 3; How Do I Select Among Commercial Packages? p. 7; Review Summaries- -(Field Matrix, p. 9)(Comparative Scoring, p. 15)(Individual Reviews, p. 19); For More Information, p. 75; Other Donor Management Packages, p. 77

Apple Computer Resources in Special Education and Rehabilitation is approximately 400 pages describing 1000+ hardware and software products, publications, and organizations designed to help persons with disabilities take advantage of the power of computing. $19.95 from DLM/Teaching Resources, P.O. Box 4000, Allen, TX 75002. (I have heard good things about this resource).

The Digital Social Worker: Microcomputers in Clinical Social Work Practice: Final Project Report by L. deGroot, J. Gripton, & P. Licker provides a comprehensive account of a 3 year research effort and demonstration project that explored and developed microcomputer applications to clinical social work practice. There is no ordering address in this report, but you can contact Jim Gripton at U. of Calgary, Dept of Social Welfare, 2500 U. Dr. NW, Clagary, Alberta, Canada T2N 1N4.

Managing End User Computing for Users with Disabilities by Clearinghouse on Computer Accommodation (COCA). Call (202) 523-1906

1987 Proceedings of the CSUN (Computer technology, Special needs, Understanding Networking). Send 21.25 to CSU Foundation, Northridge, Office of Disabled Student Services/DVSS, CSUN, 18111 Nordhoff St., Northridge, CA 91330.

Access to Information Technology by Users with Disabilities. These guidelines outline management responsibilities and functional performance specifications relative to agency acquisitions to insure that handicapped individuals may use electronic office equipment with or without special peripherals. Contact GSA Clearinghouse on Computer Accommodation (202) 523-1906.

Decentral Electronic Data Processing in Social Work edited by Matthias Frommann. Issues by the German Association for Public and Private Welfare (Deutscher Verein), Hans-Muthesius-Haus, Am Stockborn 1-3, D-6000 Frankfurt/M 50, Telefon 0 69/5 80 31 22 articles; 447pages; in German.

Financing Adaptive Technology: A Guide to Sources and Strategies for Blind and Visually Impaired Users. By: Steven B. Mendelsohn. Published by Smiling Interface, PO Box 2792, Church Street Station, New York, New York 10008-2792, 212-222-0312. $20.00 plus $1.25 Shipping.

Trace Research and Development Center has released a new catalog of information available from the Trace Center Reprint Service, 1987-88. Reprints and books are available on topics of general interest, communication systems applications, computer related applications, conference papers and proceedings, compatibility standards, and Trace Center project reports. For further information, contact Trace Research and Development Center on Communication, Control, and Computer Access for Handicapped Individuals, S-151 Waisman Center, University of Wisconsin-Madison, Madison, WI 53706, 608-262- 6966

Issues In Patient Tracking: Proceedings of the Tenth MSIS National Users Group Conference, over 400 pages, $20 from Ms. Shelley Sprung, Information Sciences Division, Nathan S. Kline Institute, Orangeburg, New York 10962, (914) 359-0002

The Directory of Computer Equipment for the Blind and Visually Impaired, an up-to-date directory containing more than 150 entries, including hardware and software suppliers, peripherals, researchers, and training and demonstration centers is available from the Computer Center for the Visually Impaired, Baruch College, 17 Lexington Avenue, Box 515, New York, NY 10010. Also included in the directory are indexes by product and by vendor; and advice on selecting appropriate equipment. Cost is $24.50.

Ramsey County Electronic Benefit System: Final Evaluation Report 2/88 provides the results and conclusions of the Community Human Services Department's experience with Electronic Benefit System. Write Joan Velasquez, Dir. of Research, Ramsey County Community Human Services Dept., 160 E. Kellogg Blvd., St. Paul, MN 55101 (612) 298-4796.

Contents of Recent Publications

Newsletter: RTA ON-LINE (The newsletter of Rehabilitation Technology Associates)

Issue: Volume 4, Issue 2, Fall 1987

Source: West Virginia Research & Training Center, One Dunbar Plaza, Suite E, Dunbar, WV 25064-3098, (304) 766-7138

Contents:

Getting to the Basics at Last by: Joseph B. Moriarty
More on the RTA Conference by: Dave Whipp
The Perfect Resume by: Wes Long
Information Smorgasbord (software, databases, projects, conferences)

Newsletter: RTA ON-LINE (The newsletter of Rehabilitation Technology Associates)

Issue: Volume 4, Issue 4, Winter 1987

Source: West Virginia Research & Training Center, One Dunbar Plaza, Suite E, Dunbar, WV 25064-3098, (304) 766-7138

Contents:

Research and Training Center Grant Supports RTA by: J. B. Moriarty
Listing of 1988 Conference Vendors and keynote speakers
1988 RTA Conference Tentative Agenda
Labor Market Access Plus by Roger Weed, Ph.D., CRC, CIRS
Letters TO/FROM the Editor

Magazine: Computers in Nursing

Issue: March/April 1988, Volume 6/Number 2

Source: J.B. Lippincott Company, P.O. Box 1600, Hagerstown, MD 21741-9983

Contents:

Guest Viewpoint: Apple of My Eye, p. 52
Knowledge Representation in Expert Systems: Nursing Diagnosis Applications by Susan K. Chase, RN, MA, p. 58
Meeting the Needs of the Computer Age in Continuing Education by Jean M. Arnold, EdD, RN and Carol A. Bauer, MA.,RN, p. 66
Activity Level in Hospitalized Children During Sleep Onset Latency by Phoebe D. Williams, PhD, RN, Marjorie A. White, PhD, FAAN, Gail M. Powell, MSN, RN, Doris J. Alexander, MN, RN, and Michael Conlon, PhD, p. 70
A Review of the Effectiveness of Computer Assisted Instruction in Nursing Education by M. J. Belfry, RN, MSc, & P. H. Winne, PhD, p. 77
Nibbles, p. 54
Software Review, p. 86
Bulletin Board, p. 88

Magazine: Computers in Nursing Supplement

Issue: March/April 1988-Supplement--Special **Issue:** Annual Software Exchange

Contents:

Listing of software presented by Title, System, Target Group, Synopsis, Price, Source

Newsletter: Prentke Romich Company Newsletter

Issue: Spring 1988

Source: Prentke Romich Company, 1022 Heyl Road, Wooster, Ohio 44691, (216) 262-1984

Contents:

Minspeak History
New AAC Fellowship for graduate or postdoctoral studies
Touch Talker Says it All
Technology is Not Enough
Consultant News
Minspeak Camp Receives Award
Augmentative and Alternative Communication at York University
Behind the Scenes
Doctoral Dissertation Examines Picture/Word Associations
Animations of the Mind, 1988 ISAAC Conference

Trial Rental Policy Evaluation Prior to Purchase
Special Ed Curriculum
1988 Calendar of Upcoming Events and Seminars
Educational Opportunities this Summer
Special Education Summer Institute Set at Johns Hopkins University
Temple University Offers Graduate Courses
Toll-Free WATS lines
Newsletter: Window on Technology Newsletter

Issue: Vol. 4 No. 6 March/April 1988

Source: WINDOW, Program Technology Branch, Ministry of Community and Social Services, 16 Breadalbane Street, Toronto, Ontario, M4Y 1C3

Contents:
Developing and testing devices
The role of the disabled person: Guinea pig or colleague?
Another way to use technology for recreation: The Boad Buddy
Upcoming meetings
TechNet: New Publications

Newsletter: Computer Disability News

Issue: Volume 5, Issue 2 Summer, 1988

Source: National Easter Seal Society, 2023 W. Ogden Avenue, Chicago, IL 60612, (312) 243-8400

Contents:
Tech act proposal remains on docket in US Senate
APHASIA: What happens when the therapy $ run out @PUBCONTENTS = In Ohio, home computer therapy is a new answer
Preschool information pool under exploration in Florida
New report on governmental equipment guidelines for accessibility
New rehab database from the Veterans Administration
Free packet on Apple computer resources
Resources for job training: The Association of Rehabilitation Programs in Data Processing
Featured product: IBM Screen Reader
Soft-Talk column
Calendar of upcoming events

Software Announcements

BERNIE CARES Information and Referral Software is a IBM-PC or compatible realtime information and referral system. The system uses keywords, service types, agency names, and "artificial intelligence" searches to locate service providers and display them on the computer monitor. Contact at Central Referral Services, Inc., 334 Porter Ave, Madonna Hall-1st Fl., Buffalo, NY 14201.

PCs in Transportation Software Directory with over 450 software programs and information sources is available for $21.95 from Transportation Center, 2011 Learned Hall, The U. of Kansas, Lawrence, KS 66045.

STICKEY is an IBM-PC public domain software program for persons who use the keyboard with one finger or with a stick. Write Center for Computer Assistance to the Disabled, 2501 Ave. J., Suite 100, Arlington, TX 76006-6191 (817) 640-6623.

The **Academic Merit System** is a totally automated merit review system that was designed by Walter Hudson for use by the faculty and by the Personnel Committee for evaluating faculty performance. The faculty segment of the program:

- Enables faculty, on a daily basis, to enter and review all merit materials concerning research and publication, classroom teaching evaluations, service to the school and university, and service to the community and the profession.
- Prints a complete or summary report of all merit materials the faculty member has entered into the system. The faculty member may then simply submit the written report to the Personnel Committee. The written report is customized to each person's materials and covers the four merits mentioned above.
- Prepares a diskette for use by the Personnel Committee should they desire to have each faculty member's materials in that form.
- Prepares a permanent copy of the faculty member's merit review materials and stores them on diskette. It will also print the diskette label so that users will be sure to properly identify their diskette records.
- Reviews each person's merit status at any time with the touch of a single key.

The Personnel Committee segment of the program:

- Enables the Personnel Committee to review the merit information that a faculty member has provided on a diskette.
- Enables the Personnel Committee to take all the data from a faculty merit record diskette and store it in a Summary Merit Rating file for use by the committee. This is the heart of the automated merit procedure in terms of reducing the work of the Personnel Committee.
- Enables the Personnel Committee to review the Summary Merit Rating data file on screen. This may be done at any time.
- Prepares the final merit rating reports for distribution to the dean and the faculty.
- Enables the Personnel Committee to store the Summary Merit Rating data on diskette as a permanent record of merit evaluation for the entire review period.
- Enables the Personnel Committee to examine or change the merit review rating parameters at any time.

AMS is available through the CUSSN disk copy service, see pg. 3.

ADVOCATE is a fundraising and mailing list program which supports telephone fundraising, pledge tracking and billing, direct mail, and canvassing. Write at 186 South St., Boston, MA 02111

R/CLIENT is a comprehensive client management and reporting system for social service organizations. It covers registration/admission, clinical evaluation, treatment planning/case management/quality assurance, service reporting, productivity analysis, scheduling, integration with billing and accounts receivable, tracking and follow-up, and standards and ad-hoc reporting. Contact Great Lakes Behavioral Research Institute, 214 Boulevard of the Allies, Pittsburgh, PN 15222 (412) 261-5577.

Corinthan Software, Inc. offers non-profits good prices on packaged systems. Software available includes Fund/track Accounting, Donor/track Contribution tracking, and The Volunteer Manager.

DSM-III-R on Call is a memory resident DSM-III diagnostic index for immediate look-up of diagnostic codes, descriptions, and criteria. Contact Applied Innovations, South Kingstown Office Park, Wakefield, RI, 02879 (800) 272-2250.

TEST PLUS is PC-compatible software that administers, scores, and generates individual assessment reports for personnel evaluations, career planning, rehabilitation counseling and family therapy. **SPECTRUM-I** provides objective measurement of four basic motivational factors--accomplishment, recognition, power and affiliation. It is designed to assess in selection interviews and placement decisions.

POSE gives you tools to capture, validate, integrate, manage and document system information requirements using any methodology and in any discipline. Write CSA, 50 Tice Boulevard, Woodcliff Lake, NJ 07675

Upcoming Events

Expert Systems and Decision Support in Medicine, September 25-28, 88, Institute for Medical Informatics, Medical School Hannover, West Germany. Contact: Conference Secretariat, Medical School Hannover, Institute for Medical Informatics, P.O.B.61 01 80, D-3000 Hannover 61, Fed Republic of Germany, Tel.:(0511) 532-2540, Telex:921217 medho d EARN/BITNET: SECRETAR@DHVMHH1

Second National Conference on the use of Computers in Healthcare Education and Training, 5-7 October 1988, Keele University, England, Contact Sue Kavanagh at: Open Software Library, 164 Windsor Road, Ashton-in- Makerfield, WIGAN WN4 9ES, Tel: 0942-712385

Southeast Augmentative Communication Conference, October 14-15, 1988 at the Hilton Hotel in Birmingham, Alabama. Contact PAMELA S. ELDER, Coordinator SEACC, 2430 11th Avenue North, Birmingham, Alabama 35234

Closing The Gap Conference: Microcomputer technology in special education and rehabilitation, October 20-22, 1988, Radisson South Hotel, Minneapolis, Contact: Closing The Gap, P.O. Box 68, Henderson, MN 56044, (612) 248-3294

Fourth Annual Computer Technology/Special Education/Rehabilitation Conference, November 2-4, 1988. Contact person: Dr. Harry J. Murphy, State University, Northridge, 18111 Nordhoff Street, Northridge, CA 91330, 818-885-2578.

Twelfth Annual Symposium on Computer Applications in Medical Care, November 6-9, 1988, Sheraton Washington Hotel, Washington, DC. Contact Robert A. Greenes, MD, SCAMC--Office of CME, The George Washington University Medical Center, 2300 K Street, NW, Washington, DC 20037, (202) 994- 8928.

Society for Computers in Psychology 18th Annual Meeting, Chicago, Illinois, November 9, 1988. Will contain papers, symposia and tutorials in the area of computers in psychology, including modeling and human-computer interaction, along with software demonstrations and non-proprietary software copy service. Contact N. John Castellan, Jr., Department of Psychology, Indiana University, Bloomington, Indiana 47405, (812) 335-4261, EMAIL: castellan@IUBACS or castella@IUBACS or castellan@GOLD.BACS.INDIANA.EDU

Computers in Health Sciences Symposium, November 10, 1988, U. of Medicine and Dentistry of New Jersey. Contact Syed Haque, UMDNJ-SHRP, 65 Bergen St., Newark, NJ 07107-3006 (201) 456-6871.

The Third Annual WHRO-WVIZ Interactive Technology Teleconference, November 18, 1988, Norfolk, VA, Contact Dianne Lawrence, WHRO CII, 5200 Hampton Boulevard, Norfolk, VA 23508 (804) 489-9476

National Conference on Special Education and Technology, December 11-13, 1988 in Reno, Nevada. Sponsor = Technology and Media Division, The Council for Exceptional Children. Contact Ted Hasselbring, c/o Dept. of Professional Development, The Council for Exceptional Children, 1920 Association Drive, Reston, VA 22091-1589. (703) 620-3660

Technology and Special Education, December 11-13, 1988, Bally's Reno, Nevada. Sponsored by the Council for Exceptional Children in conjunction with the Technology and Media Division. Contact CEC, Department of Professional Development, 1920 Association Drive, Reston, VA 22091.

Medical Informatics & Education International Symposium, May 15- 19, 1989, The University of Victoria, Victoria, B.C. Canada. Contact Tom Lictaer, Conference Office, University of Victoria, P.O. Box 1700, Victoria, B.C., Canada V8W 2Y2, Phone: (604) 721-8475, E-mail:MIEDU89@UVVM.BITNET

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- In England, send to Stuart Toole, City of Birmingham, Polytechnic, Dept. Soc. & Applied Social Studies, Birmingham, England B42 2SU.
- In France, send to Alain Mazet, 10, Boulevard Gambetta, 87000 Limoges, France.
- In Greece, send to Christine Vayes, EKLOGI Journal, Skoufa 52, 106 72 Athens.
- In India, send to Vidya Rao, Tata Institute of Social Sciences, Deonar, Bombay -- 400-088.
- In Israel, send to Menachem Monnickendam, School of Social Work, Bar Ilan University, Ramat Gan 52100, Israel.
- In the Netherlands, send to Hein de Graaf, Charlotte de Bourbonstraat 5,2341 VC Oegstgeest, Netherlands.
- In Switzerland, send to Armin Murmann, Institut D'Etudes Sociales, Rue Pre'vost--Martin 28' 1211 Geneve 4, Switzerland.
- In West Germany, send to Berndt Kirchlechner, Fachhochschule Fachbereich Sozialpadagogik, 6000 Frankfurt, Limescorso 9, Frankfurt A.M., West Germany.

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