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Computer Use in Social Services Network

Vol 10 No. 1
Spring 1990

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: 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. A single issue is approximately 20 pages, a double issue is approximately 40 pages. Back issues are $5 each.

The Disk Copy Service makes human services demos and shareware available to members for a small processing fee. Write for free listing of software and see inside this newsletter for newest disks. **The Electronic Network** (CUSSnet) establishes local bulletin boards, national and local mail and file transfer, downloading of public domain software, and access to several databases on human service computing. CUSSnet builds on FIDONET, about 6000 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. Usually no fee is required.

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

The Software Clearinghouse offers a computerized inventory of human service software. **Special Interest and Area Group** are subgroups where networking is occurring.

- *Educators SIG,* c/o Wallace Gingerich, School of Social Welfare, U of Wisconsin-Milwaukee, Milwaukee, WI 53201.
- *Hospital Social Services SIG*, c/o Mike King, Director of Social Wk & Discharge Planning, St. Francis Hospital, 100 Port Washington Blvd, Roslyn, NY 11576.

See also country contacts listed on the back cover.

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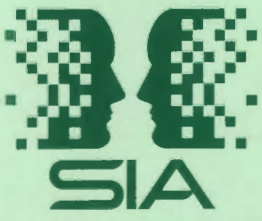

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Services Available

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New Hampshire		
ECHO Consulting Services, Inc., Box 540 Center Conway, NH 03813	Loren Davis, Director of Marketing (603) 447-5453 (800) 635-8209	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. Consultation on using spreadsheet and word processing programs. are also available.
Wisconsin		
In-House Information Systems, Incorporated. 1540 Blaine Racine, WI 53140	Kim House, President (414) 637-2093	MIS consultants to local governments and public service agencies. Information systems design from initial definition to programming specifications to implementation. Hardware and software purchansing recommendations, training, system documentation and MIS budgeting. Independent of hardware and software vendors
Toronto, Canada		
Human Services Informatics Ltd. (HSI) 600 The East Mall, 2nd Floor Toronto, Ontario M9B 4B1 Canada	Jim Armstrong, Ph.D., President John MacNeil, M.S.W., V.P. & Sales/Marketing (416) 622-8890	Developers of specialized information management systems which enable human service agencies to manage caseloads, service transactions, human and financial resources. This integrated software package has a unique query ability and permits users to ensure quality care and contain costs, on a constant basis. Requirements: IBM or compatible 80286, Xtrieve. Compatible with SYSTAT and SPSS for more sophisticated statistical data analysis.

Service Listing Announcements: Interested vendors/consultants should send payment along with their description. Rates are as follows:
Under 15 words, $18 per year. Under 30 words, $28 per year. Under 45 words, $10 per issue or $34 per year. Under 60 words, 12 per issue or $40 per year

Space Advertisements: Advertising space is available in the CUSS Newsletter at the following rates:

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 10 cents per label.

CUSSN Disk Copy Service

Definitions of software codes:

[D] = **Demo**—Software that highlights a product and/or gives you the feeling of how the actual product operates.
[F] = **Freeware**—Full working version; no restrictions on use.
[L] = **Limited Use Version**—Lets you examine the product, but limitations prevent continued use.
[U] = **User Supported Shareware**—Full working copy; you are expected to register and pay the vendor if you use it.
IBM-PC = Will run on the IBM personal computer and compatibles.
{HD} = Requires a hard disk.
{C} = Requires a color graphics card
$ = Vendor allows you to deduct the payment to CUSSN for disks from your purchase price.
Note: Disks are direct from the vendor and copied with vendor permission. Thus, disks are free of computer viruses.
All disks are guaranteed to work. However, disks may get damaged in the mail. If you have a problem, do a PrtSc of the problem and return it with your disk for a new copy.

New Disks Since the Last Issue

ACHI (1 disk)—Assessment of Chemical Health Inventory Demo [D] IBM-PC
The ACHI is a 128 item self-administered instrument designed to evaluate the nature and extent of adolescent and adult chemical use and associated problems. Circle here whether you prefer the adult or youth version or both (2 disks).

SWBIB (2 disks)—Annotated bibliography on computers in social work [F] IBM-PC
A 196 page (440K byte) annotated bibliography on computers in social work. The files are in ASCII format with an index at the end.

Black Magic Demo (1 disk)—Demo of hypertext software, see below [D] IBM-PC

Black Magic (3 disks)—Shareware version of hypertext software [U] IBM-PC
Shareware hypertest authoring system for creating interactive electronic text and graphic documents.

CASSDEMO (1 disk)—Demo of Computer Assisted Social Services (CASS) system (see below) [D] {HD} IBM-PC

CASS (4 disks)—Computer Assisted Social Services (CASS) system [L] {HD} IBM-PC
CASS features: (1) automated casenotes; (2) automated and fully relational structured forms, social histories, research and clinical questionnaires; (3) automated and relational clinical interview schedules; (3) automated billing system; (4) unidimensional and multidimensional assessment scales; (5) mental status testing; (6) graphics display of single case designs; (7) complete program evaluation features at the client, worker, unit, section, office or organization level.

Dr. Bill's Software Demo—(1 disk) Demo of OWCP Case Management and DOT Codes software [D] IBM-PC
Demo of OWCP Case Management software that handles DOL billing and financial reporting for a Rehabilitation Counselor with a Department of Labor OWCP caseload. Also, demo of "DOT on a Disk" software that provides DOT codes, Skill Level, Physical Demands, Environmental Conditions, OES Codes, and Census Codes for all 12854 jobs appearing in the Dictionary of Occupational Titles. Particularly useful for vocational expert witness testimony.

FormGen (1 disk)—Shareware program generates and manages forms [U] IBM-PC
Helps design, store and print master forms. Forms can also be filled in on the screen, printed and stored.

FreeBoard (1 disk)—Demo of software allowing non-keyboard input $[D] IBM-PC
Demo of software which allows users to work with most software using only a trackball, mouse, joystick, row/column canning, or optical pointer.

HFSL (2 disks)—Freeware housing finance management software [F] IBM-PC {HD}
The Housing Finance Savings and Loans (HFSL) software package from the United Nations Centre for Human Settlements (Habitat) is an accounts management program for housing finance. It is a menu driven dBase III+ program that can be easily modified. It performs all the standard account-management functions.

I-View Skills—Demo of software to teach interviewing skills [D] IBM-PC
Sampler of a computer assisted instructional program for teaching cognitive elements of basic interpersonal communications skills.

MRDOS (1 disk)—Shareware introduction to the IBM PC and DOS [U] IBM-PC

PCFUND (1 disk)—Demo of complete fund accounting system from American Fundware $[D] IBM-PC

Personnel Policy Expert [1 disk] Demo that generates an employee handbook from user questions $[D] [IBM-PC].
Demo of software that constructs up to 50+ pages of ASCII personnel policies based on user responses in over 55 policy subjects.

SCHEDULE & GANTT (1 disk)—Shareware and demo for project management [L&F] IBM-PC
GANTT (shareware) displays project schedules using GANTT charts. Schedule (limited capacity version) manages projects using the critical path method (CPM) and program evaluation and review technique (PERT). A demo and tutor are also provided.

Understanding Statistics (1 disk) A statistical tutorial $[D] {C} IBM-PC
Understanding statistics in Education and Psychology demos a package which provides 10+ hours of instruction /testing covering descriptive statistics, sampling, hypothesis testing, analyzing discrete/nominal data, correlation and regression, tests and measurement, and ANOV.

Selected Disks described in previous issues—write for complete listing

Accounting and billing

Clinic Accounts Receivable (1 disk) Demo of 3rd party billing, sliding-fee program [D] (IBM-PC)
Fixed Asset Manager (2 disks)—Shareware fixed asset management system [U] (IBM-PC) {HD}

Fund Accountant (2 disks) – Shareware fund accounting system [U] (IBM-PC) {HD}
Nonprofit General Ledger (1 disk) – Shareware nonprofit general ledger [U] IBM-PC
Painless Accounting (3 disks) – Shareware office accounting and billing system [U] IBM-PC {HD}
Professionals' Billing System (2 disks) Shareware clinical practice billing system [U] IBM-PC {HD}

Disabilities

CAPTAIN'S LOG (2 disks) – Demos a cognitive rehabilitation system [D]{C} IBM-PC
Newkey (1 disk) – Shareware key redefinition keyboard enhancer [U] IBM-PC
1-Finger (1 disk) – Makes keyboard more usable for those with disabilities [F] IBM-PC
SPELL GAMES & Bannerific (1 disk) – Shareware banner making program & game to learn how to spell [U] IBM-PC
WPK (1 disk) Shareware easy-to-use large type font Word Processor [U] IBM-PC

Education/training

ANGER-ADVOCACY (1 disk) – Training courses on Responding to Anger & Legislative Advocacy [F] IBM-PC
BASIC Professor (1 disk) – Shareware interactive tutorial on the language BASIC [U] IBM-PC
Empirical Practice (3 disk) – Materials for a course on empirical practice [F] IBM-PC
MEL (2 disks) – Demo of Micro Experimental Laboratory system [D] IBM-PC {C}
PC-CAI (1 disk) – Shareware system to develop computer aided instructions [U] IBM-PC
PC-PASS (1 disk) – Demo of authoring system with two social policy examples [D] IBM-PC
PC-FASTYPE (1 disk) – Typing instruction program [U] IBM-PC {C}
SIMCON (1 disk) Shareware policy simulation [U] IBM-PC
TUTOR.COM (1 disk)(Ver 4.4) A general tutorial on the IBM- PC and DOS [U] IBM-PC

Health and Mental Health

Agency Simulation (1 disk) – Agency simulation source code & reports for a Dec 10 computer [F] IBM-PC
AIDS Information (2 disks) – Hypertext shareware [U] with AIDS example [F] [D] IBM-PC
AMIS (1 disk) – Demo of a hospital social work/discharge planning system [D] IBM-PC
ARES (1 disk) – Demo of an At-Risk Evaluation System [D] IBM-PC
Decisionbase (1 disk) Demo of integrated mental health software (see below) [D] IBM-PC
Decisionbase (3 disks) Fully functional sampler of integrated mental health software [D] {HD} IBM-PC
DIS (1 disk) – Demo of client self-administered Diagnostic Interview Schedule generating DSM III info. [D] IBM-PC
Hamilton Depression Assessment (1 disk) – Automates a depression scale [F] IBM-PC
Help-Software (1 disk) – Demo of self-help software for assertiveness, self-esteem and stress [D] IBM-PC
MMPI (1 disk) Demo of software which helps interpret the MMPI [D] IBM-PC
PsyMed (2 disks) – Provides an easy to use guide to psychotropic medications [U] IBM-PC
PSYSEARCH (1 disk) – Demo of a psychiatric diagnostic aide using a DSM-III-R type decision tree [D] IBM-PC
Tests1(1 disk) 5 tests for game and curiosity purposes [U] IBM-PC
The Psychiatric Assistant (2 disks) Demo of a system to assist clinicians [D] IBM-PC

Management

AMS (1 disk) – Demo of a generic Agency Management Package [D] (IBM-PC)
Bernie Cares (2 disks) – Demo of an information and referral system [D] IBM-PC {HD}
Community Services Locator (1 disk) – Demo of an information and referral system [D] (IBM-PC)
Donor Network (3 disks) – Shareware donation and pledge tracking system [U] (IBM-PC) {HD}
EZ-Forms (1 disk) – Shareware program generates and manages forms [U] IBM-PC
FormGen (1 disk) – Shareware program generates and manages forms [U] IBM-PC
Micro-Psych (1 disk) Demo of office management system for individual/group practices [D] IBM-PC.
MIS Manager (2 disks) – Shareware computer inventory tracking system [U] (IBM-PC) {HD}
TPPM (1 disk) Demo of The Psychotherapy Practice Manager--manages records, appointments & billings [D] IBM-PC
Volunteer Network (3 disks) – Shareware for tracking and scheduling volunteers [U] (IBM-PC) {HD}

Miscellaneous

KWIKSTAT (2 disks) – Shareware statistical package, Ver 2.0 [U] IBM PC {C}
Child Abuse (1 disk) Demo of how an intake prioritization expert system might work [F] IBM-PC
TNCinfo (2 disks) Texas Networks for Children Electronic Information System [U] IBM-PC

Help build the list. If you have found a human service oriented demo/freeware/shareware disk to be useful, please send it along. For every demo/freeware/shareware disk you send me, I will send you any three disks free.

Demo/shareware/freeware disk order form

To order, circle the disks requested. Enclose $5 per disk ($6 for non-members and overseas mail) to cover mailing and handling. On orders of over 10 disks, deduct $1 per disk. Disks may be accompanied by vendor advertisements, order forms, etc. Proceeds from disk sales go towards furthering the CUSSN activities. Order from D. Schoech, CUSSN, UTA, Box 19129 GSSW, Arlington, TX 76019-0129. Make checks payable to CUSSN. UTA's Federal Taxpayor ID number is 75-6000121W.

Number of software products = _____; **Number of computer disks =** _____

Enclosed: (U.S. dollars only) (# of disks X $5 (members) or $6 (non-members) per disk (minus $1 per disk for orders of 10+ disks)_____

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CUSSNet – CUSSN's Electronic Network

Overview

The electronic component of the Computer Use in Social Services Network (CUSSNet) establishes local bulletin boards, local and international mail and file transfer, conferencing, and repositories of electronically available information. CUSSNet builds on a network of about 6000 local bulletin boards (FIDO, OPUS, etc.) around the world which automatically exchange information. Usually no fees are charged except for long distance mail.

To Use CUSSNet

If a BBS carrying the CUSSNet conference (echo) exists in your city, you're in luck. Simply dial it up using your computer and a modem and follow the directions. If no CUSSNet node exists in your city, call long distance to a CUSSNet node near you (you may want to learn to use a BBS by calling a free local node.) To locate a local FIDO or OPUS BBS, ask your local microcomputer dealer. You can use a local node to send mail and pick up whatever CUSSNet information your local BBS operator will get for you. You may have to pay a small deposit to your local node for long distance mail. Communications are at 300-2400 baud, 8 data bits, 1 stop bit and no parity. Almost any computer or terminal and modem will work.

Examples of Message, File, and Conference Areas on CUSSNet nodes

- **Message Areas:** Local mail (public and private); International mail; and **conference areas** on human services, psychiatry, addictions, disabilities, Vietnam Veterans issues, AIDS, Violence, etc.
- **File Areas:** Files related to mental health, developmental disabilities, welfare, health, training, games, and utilities.

Nodes Carrying the CUSSNet Conference:

Net/Node	BBS Name	City & State	Sysop	Phone
10/300	Bruce's_Board	Barstow,CA	B. Hartsell	619-252-5150
11/301	Fido-Racer	Murray,KY	B.Allbritten	502-762-3140
104/51	P2_B2_S	Denver,CO	C.Warren	303-329-3337
105/10	Atarian_BBS	Portland, OR	M. Attaran	503-245-9730
105/469	Bagdad_Cafe	Gresham, OR	B. Taylor	503-669-7291
106/12	SoundingBoard	Spring, TX	M. Bleecher	713-821-4148
13/1033	NY_Transfer	Staten Island,NY	B.Richards	718-448-2358
107/240	Adelphi U. Soc Ser	Garden City, NY	Sven Dietrich	516-228-7498
109/507	Hd._Start_RC	College Park,MD	D.Mohney	301-985-7936
109/512	Nat_Headstart_BBS	Hyattsville,MD	S.McBride	301-985-7923
119/13	LINKS.BBS	Chico, CA	T Baughman	916-343-4422
114/15	St_Joes_Hospital	Phoenix,AZ	D.Dodell	602-235-9653
129/75	Ecclesia_Place	Monroeville,PA	L.Pascazi	412-373-8612
130/10	DD_Connection	Arlington,TX	D. Seavey	817-640-7880
132/111	On_Line_NH	Concord,NH	D.Hall	603-225-7161
138/116	Group Medical BBS	Tacoma, WA	I Arslangiray	206-582-3212
141/420	The Handicap News	Shelton, CT	B. McGarry	203-337-1607
150/101	Black_Bag_BBS	Newark,DE	E.DelGrosso	302-731-1998
151/101	EQUAL	Raleigh,NC	M.Bowen	919-851-6806
170/301	TBBS-Tulsa	Tulsa, OK	F. Grant	918-687-3276
202/606	Hillcrest BBS	San Diego, CA	M Blair	619-291-0544
266/12	Maple_shade_Opus	Maple Shade, NJ	B eller	609-482-8604
267/41	The_HOST_BBS	Glens Falls,NY	R.Calloway	518-793-9574
305/101	NASW_New_Mexico	Las_Cruces, NM	M.Connealy	505-646-2868
321/109	Pioneer_Val_PCUG1	Amherst, MA	M.Sternheim	413-256-1037
321/203	VETLink#1	Pittsfield, MA	Gj.Peck	413-443-6313
343/35	HDS_Univ_of_Wash	Seattle, WA	C. Ritchie	202-543-3719
381/5	Micro Applications	El Paso, TX	D. Gladden	915-594-9738
382/1	Crystal_Palace	Lake Travis,TX	M.Masterson	512-335-7949
382/5	Health-Link	Austin,TX	B.Baskett	512-444-9908
387/404	ACS_People_Connection	San Antonio,TX	B.Armstrong	512-349-5785
254/11	Poly_Opus	London,UK	E.McCabe	441-580-1690
2:253/151	TOPPSI RBBS	Dublin Ireland	David Doyle	353-1-7110
2:253/152	UK_Healthlink	Wigan,UK	D.McKendrick	449427-22984
2:256/97	LogOn-In-Tynedale	Hexham, UK	J. Rawson	44-434606639
2:283/105	Datawerken_IT	Remmerden, Holland	M.Mazeland	318376-15363
2:512/120	STEBIS	Leiden, Holland	M. Gobes	31-71-320002
2:513/11	BB_BBS	Wijnegem,Belgium	D.Gevaerts	32-3-3536348
3:634/388	AXIOM BBS	Melbourne, Australia	A.Rajcher	61-3-500-0327

Articles, Reviews, and Reports

Interview with John Fluke

Policy Analyst and Projects Manager for the National Resource Center on Child Abuse and Neglect, American Association for Protecting Children [A division of the American Humane Association] 9725 E. Hampden Ave., Denver CO 80201-1266.

CUSSN: *How do you see your job as policy and resource analyst meshing with computerization?*

Fluke: There are many aspects of our work that relate to computerization. One is the policy research that I perform, which is mostly oriented to child protective services. This research involves a great deal of exposure to state social service information systems that agencies have developed to maintain information on cases of child abuse and neglect. These systems include central registry systems which are geared toward child abuse and neglect reporting as well as case tracking systems which are used to support service activity management. The consequences of spending a lot of time doing research with that sort of data is that you begin to know how the systems work, and in great detail. That includes not only the data elements that the systems collect, but also extends to the way that these systems are organized, the sorts of hardware environments that they operate in, and especially the problems that people have accessing and using the data.

In addition, because of that exposure, I have a sense of the broad directions that these systems are moving in. I also have a sense of where those directions might lead from the standpoint of utilizing information for program management and decision support.

CUSSN: *Where are we in terms of computerization of child protective services?*

Fluke: When I first started working for The American Association for Protecting Children about ten years ago, the state of child protective services information systems throughout the country was really pretty poor. Very few states were automated and what automation efforts had taken place were very limited. What we've seen during the past ten years is a significant change in that almost every state has had some experience automating child welfare information systems. What's more, many of these systems are put together very well and some are highly innovative.

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From our experience, on average there are about five states each year that are in the process of implementing rather significant changes in their information system. Many of the changes that I've seen, and the ones I perceive to be fairly promising, have to do with the data structures that include more information about case process.

Among the many limitations that I think characterized the early central registries and case tracking systems was that they were limited to describing cases. They couldn't tell you very much about what was going on in the agency; they couldn't tell you very much about the decisions that were being made. They contained merely data with very little in the way of agency context.

Recently significant information system improvements have occurred which focus on accounting for the behavior, if you will, of the agency. Of course they've become much, much more complex, and that obviously has some drawbacks. However, I'm hopeful that this type of improvement coupled with the availability of user oriented access to these systems, will encourage more people who know the programs to begin to access their data directly. I think we've seen significant movement in that direction.

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Another area I get concerned about, an area that has plagued data gathering in this field before there was any automation, is the relative quality of the information. For example, a recent study by Jean Harrod of the reliability of central registry data in Michigan, found that comparatively simple items like the date of a child abuse or neglect report had about a 25% error rate. Many similar child welfare data items appear to be loaded with a significant amount of error, some of which we probably can't statistically compensate for.

Part of the reason for these levels of error is that the data is supplied by case workers who will either never see it again in any form, or if they do see it, it's presented in a negative form. Because there is little effort made at disseminating statistical information to the line staff, there's not a lot of feedback, there's not a lot of sense that data has any utility, at least at the line level.

The other problem is that we have not made the case very well to the field that the data is relevant and that it needs to be of a certain quality in order for us to be able to rely on what it is telling us. That relates to issues that have to do with training, it relates to issues that have to do with how we motivate people around their jobs, and I think it also has to do with the way we design the information systems.

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For our part we have been encouraging public agencies to utilize their child welfare data more effectively, and to educate and involve all levels of staff in the process of examining it. As an example, for many years our agency has provided a core child protective services training curriculum, which is now in the process of being revised. One of the new components that we intend to put in is a section related to information recording, information processing, and information utilization. This extends to not only case recording,

but also the automated systems that people use, and the utility of those automated systems.

In conjunction with other programs, we hope that workers and administrators will be encouraged to view information gathering and utilization as a critically important aspect of professional child protection.

CUSSN: *You describe the process over the past 10 years as rather painful, but as a definite movement into the information society. Where are we in that process?*

Fluke: I'd like to say we're half-way through, but I have a feeling that we're somewhat closer to the beginning than that. There are still even now a few states that really do not have information systems that can be considered in any way adequate. That despite years of experience among states that have very successful systems. Unfortunately, the situation in the field is not so simple that these information system problems can be solved by refraining from "reinventing the wheel" and adopting successful systems from other states.

Most state agencies really do have different requirements for information;different philosophies guide the orientation of programs, different sets of services are provided under separate administrative units, administrative structures tend to be quite unique, hardware and software decisions made by data processing departments constrain choices, and so forth.

One of the things that ends up happening in many states, particularly states that are new to implementing a child welfare information system, is that services are obtained from a vendor who has little, if any, experience in designing or implementing a system for these kinds of purposes. For example, I think that it is crucial that the data linkages between individuals within a family constellation be maintained and be accessible as linkages. Vendors with little experience in designing systems for child welfare may not be aware of this requirement, or may simply not know how to accomplish it in the most logical and appropriate manner. Its for these kinds of reasons, that we see a fair amount of information system inefficiency and sometimes breakdown in areas for which solutions are fairly well known.

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On the other hand, because the state of information system development in child welfare is immature we should expect a certain amount of instability. The fact that five states alter their information systems in expensive ways each year is an obvious example that systems are not quite there yet.

In summarizing where we're at, we've seen a lot of progress and movement in positive directions, but we're not to the point of efficiency where the development process is informed by standard formulas and standard decisions about what an information system should do in child welfare. Those principles have not yet been codified, and I'm not certain we know enough yet or have enough experience to do so. However, once child welfare has these principles and reasonable acceptance of them, we would be about half way through the process of fulfilling the promise of the information age.

CUSSN: *You indicated we are moving toward maturity. The concept of maturity has been elusive. Do you have a concept of what maturity is in terms of child protective services computing?*

Fluke: I guess I see a major part of that maturity having to do with the interrelationship of the worker and the information system. I am a strong believer in the concept that having at least a work station, if not a personal computer, linked to an extensive information system on every worker's desk is part of what a vision of the future would consist of. Included among the many applications would be tools for managing workload, for making decisions about risk, for making decisions about scheduling, for making decisions about supporting case management activities. Those would be part and parcel of what we provide to every worker. An expectation of the job would be that those tools are available. My vision is that the worker would be integrated into the information management process, not only as a data provider but also as a data user.

...a personal computer, linked to an extensive information system on every worker's desk is part of what a vision of the future would consist of. Included among the many applications would be tools for managing workload, for making decisions about risk, for making decisions about scheduling, for making decisions about supporting case management activities.

In order to achieve this vision certain things are implied. The ability to track cases through such a system would be well refined. At minimum we would know what types of services were being provided, both to children and to families. Information about service provision would be available in as much detail as possible, and would extend to assisting us to obtain a clear understanding as to the reasons a particular set of services are being provided. Services would fit within a decision making context that is consistent not only with case work process, but also with available resource, and that those resources are managed as part of the information system. Furthermore, and perhaps most importantly, the service decisions are based on needs that to an extent are defined with the assistance of the information system and are recorded by the system through that assistance. Such a system would allow a much clearer sense that a relationship exists between needs and services.

Supervisors and administrators must also have access to that kind of information, both with respect to the individual cases as well as resource information related to the workers so that workload can be monitored and adjustments in workload can be made. If one of your principal goals as a program manager is to make sure that certain standards for case activity are adhered to, the agency information systems ought to help support your management decisions. To me, what that means is that the information system assists man-

agers by automatically altering them if there are potentially serious situations with respect to overwork. It also means that management has sufficient warning to avert problems and that the information system would assist the manager in reaching a solution by allowing the manager to test different solutions and evaluate the consequences.

CUSSN: *Could you describe your AAPC projects?*

Fluke: There are two types of projects that I tend to be involved on at AAPC. One is directly related to the management of the National Child Abuse and Neglect Resource Center, and the other is the formal more research oriented studies that we do. With respect to the former, basically what that involves is work related to acting as a liaison between the Federal Government and AAPC, being involved in distributing information about AAPC and the types of work that we do to people who have inquiries, and trying to make sure that we have good information sources available to us internally so that both as staff when we conduct certain projects we have access to that information, and when we bring people in to work with us on a project that they also have access to that information.

The other type of work related to the formal studies until recently included the national reporting study on child abuse and neglect. This is a study that involves collecting data from all the states concerning the numbers of reports on child maltreatment that they receive. Part of the data gathering process for the reporting study is to acquire case registry data from state information systems and convert it to a common format that we then use for analytic purposes. This means that the actual case data we have access to that has been resynthesized as national reporting data. We use that for a variety of purposes including production of the annual report, providing information about reporting, doing special analyses for people who request it. It is also used internally for other kinds of research performed by AAPC.

We recently finished a research project with the American Bar Association under the direction of Susan Wells. The purpose of that research was to look into screening and priority setting practices in protective services. That project was twofold:

- One, was a macroanalysis where we looked at information about screening and priority setting policies in 100 counties from approximately seven states throughout the country. Our case data base of reporting statistics was used in conjunction with surveys we distributed to intake supervisors and administrators. The purpose was to see what the impact of the screening and priority setting policies were on reported child maltreatment.
- In addition to that, we are also collected data from five states and 10 counties consisting of cohorts of 300 cases in each of those counties. We then follow those 300 cases through the various decisions that are made throughout the case process to the point of service plan formulation.

In particular we are tracking instances where intake workers with supervisors make a determination that a contact will be investigated. We're looking at those that are not investigated as well as those that are. Coupled with that was a follow-up analysis of central registry data from the states where we've asked each of those states to look into their central registries some six to nine months after we have finished the initial data collection of our cohorts to see if those cases have come back into the system during that period of time.

Among the many things we learned from the study was the importance of the supervisor as both a key person setting agency policy and as a decision maker for individual cases.

In addition to that, in conjunction with the Resource Center, we recently concluded two pilot studies of our workload analysis and resource management (WARM) package. The WARM project was designed to integrate the process of setting workload standards for protective service and child welfare agencies with a method for setting unit of service costs for providing child welfare services. The third component is the development of decision support system for supervisors and administrators to assist with the management of workload within the agencies.

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As a result of carrying out the pilots we now have a method that is reasonably well refined and has resulted in formulating recommended workload standards for Maryland and Ohio and in defining unit cost for the study in Ohio. We are now in the process of initiating a similar study concerning the unit costing method for the state of Texas.

CUSSN: *How is your workload management system received by workers.*

Fluke: I guess that's one of the things I've been kind of pleasantly surprised about. The process that we go through for beginning a workload analysis is to bring a work group together. That work group consists of workers, supervisors, administrators, and if appropriate budget analysts or managers. What we ask everyone to do is to go through a process of defining units of service which are somewhat unique for every agency or set of agencies that we work with. What that process does is provide the workers who participate an opportunity to define the work that they do, and to put it into fairly concrete kinds of terms.

When we go through that process we occasionally encounter initial skepticism, healthy skepticism on the part of workers, supervisors, and administrators – the whole range of participants – as to whether or not a study of this type that's fairly intrusive is actually going to be of benefit to them. After we go through the process of defining units of services and tasks, and defining the data collection procedures, and sampling processes, what we tend to find is that those people who at least were initially skeptical often turn out to be some of our best supporters. It's as though those individuals finally found an opportunity, in a sense, to tell their story. To tell someone about the kind of work that they do, in ways that are both meaningful and useful. From that point of view I think it's a very beneficial process for the workers that are involved.

It's a little more difficult when we actually get into the training. Those workers involved have not had as much opportunity to process the information. But even in those cases we find a significant amount of acceptance and interest

in the process and interest in the fact that peers were involved in defining the types of services that are being measured. More importantly we find that workers are interested in having some mechanism that communicates the fact that the job of providing adequate protective requires a major investment in adequate resources.

CUSSN: *You're using data as a basis for getting at much deeper information. It's an interesting way of looking at research.*

Fluke: It is an interesting way to do research, especially if you have an orientation toward applied research. In the long run you are in a position to assemble a very broad perspective of the system of child welfare services that I believe has a fairly factual basis at least within the narrow limits of the available data. Assumptions about what drives decisions and services are subjected to tests. And many of these assumptions are either discounted or modified to become much richer explanations of what really takes place.

Before this type of research is really of benefit to the individual agencies, the people who know the programs must begin to have the knowledge and skill to be able to conduct it for themselves. This cannot happen though until the people who do the programs are in a position to take control of their own information systems.

CUSSN: *I'm not sure what you mean, can you elaborate?*

Fluke: Those individuals who are the program people, who must define policy, who train workers, who are charged with the implementation of new programs, those at the state or even county level, who actually have substantive knowledge about the services, don't control their own information.

In one state, for example, we attempted to access data from a case tracking system as part of an effort to examine re-reporting levels across several jurisdictions within the state. What we found was that the data processing staff, even though the information is available, lack the capacity to understand and perform the sorts of analyses that would allow for the definition and development of a recidivism statistic. They did not understand the program, they did not understand how the data was produced. Frequently they understand there are problems with the data, but they lack substantive information to make judgments about its utilization. Unfortunately, the program staff did not feel that it was possible for them to readily describe their needs and be taken seriously.

I guess if I were to perceive where child welfare and protective services needs to go, in addition to providing support and information to workers, we need to be able to provide good program support to the policy makers within the agency. The people who make the decisions about the way the agency is going to provide services must be in a position to take control of the information that's available, and to know how to utilize it.§

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Interview with Bryan Glastonbury

Head of the Department of Social Work Studies and Director of the Center for Human Services, University of Southampton, Southampton, UK SO9 5NH United Kingdom

CUSSN: *Could you describe your information technology program at the University of Southampton and why the program brings you to the United States.*

Glastonbury: The University of Southampton has just been appointed to establish a Center for Human Services with a particular frame of reference to collect computer courseware in that general subject area. The object of my first visit to the States here is to begin to gather material for the Center. There is a certain amount of software available in Britain, but I think everyone recognizes that the bulk of it is in North America and especially in the areas of freeware and shareware. There are developments here which we can try out in Human Services education which are simply not available in Britain at the present time.

The Center itself, in addition to collecting a library of courseware, has a number of other tasks over the next three year period. One is to provide a review service for the major items of software and if at all possible to conduct well organized and monitored field trials. The Center is also responsible for disseminating that information throughout the British university network, both in hard copy and by electronic means. It seems likely that the Center will develop a clearinghouse role.

The Center itself, in addition to collecting a library of courseware, has a number of other tasks over the next three year period.

CUSSN: *The project sounds very ambitious and well coordinated. Do you know of other countries in Europe or in Scandinavia that are doing anything similar? Or maybe you found something similar in the U.S.?*

Glastonbury: I'm not aware of anything else in Europe at the present time. Of course there have been schemes in America; perhaps the earliest one was the one in the University of Denver organized by Walter LaMendola which began to develop a list both of software and vendors of the material, though this seems now to have been discontinued.

CUSSN: *In looking for software, where have you been and where are you going?*

Glastonbury: On this trip I've made contact with three well known people in this particular field. That is to say, Walter Hudson in Phoenix, particularly in relation to his Clinical Assessment System, which I think may have some important applications in Britain. Then with Walter LaMendola in Denver, where he is now linked with the Colorado Trust, and with Dick Schoech in Texas, where Dick already has a number of tasks which are similar to those which I've been undertaking in Southampton. That is to say, we both edit a journal. And, I've been able, with Dick's help, to make use of his disk copying service and a lot of the information he's gathered. Later, I think I will take the advice of those three, who have already suggested a number of venues that I might go to, and also I think it is going to be

useful for me to link in with one or two conferences in the United States where I can meet together with people who are interested in computer developments. I think as well it is very likely that I shall find myself in Canada, particularly in Toronto, where there are also some interesting activities.

CUSSN: *Do you see the academic community and agency practitioners being receptive to software and courseware?*

Glastonbury: I wouldn't say at the moment that they're very receptive. There is some interest, but I think that the job of anyone who is in this kind of field has an evangelical aspect to it. There's going to be a need, not only to introduce and encourage people to use the software itself, but also to get them committed to the whole notion of information technology in the human services. There are still a great many people in Britain and Europe who would challenge the principle of any substantial technological involvement at the practice level in caring work, although they may see it as wholly appropriate for the provision of a management information system.

CUSSN: *Have you found software that you think is heading in the direction that we need to go.*

Glastonbury: I think the important area of development for Britain is to get software which one might call "bottom up" material. Britain is solidly established now with well structured management information systems in the major agencies. These, for the most part, developed from basic packages like SPSS, which were used as ways of cataloging some very basic client information. Later specific packages (like SOSCIS) were designed to give composite cumulative data, prepare material for annual reports, etc. More recently SQL based systems (using Oracle, for example) have come into use.

What's very much less established in Britain is software which begins from the practitioner's viewpoint and develops its way of functioning and the range of data it holds from that angle, rather than from the manager's. It's a number of developments of that kind, of which CAS is one, that I'm taking back to Southampton with me to experiment with, which seem to offer a lot of potential for the future.

CUSSN: *How do you see the differences that exist in the social service delivery systems in the various countries affecting the software that is produced?*

Glastonbury: The obvious difference for a European coming to America is recognizing that in Britain and the rest of Europe, caring services are for the most part state provided. The areas of funding and billing, and of concern with the vending of software, really have very little place, so that in accommodating United States or Canadian software for use within Europe, one is going to have to recognize the particular impact of state provided services. In European countries there has been much less willingness to submit software developed within specific agencies to public scrutiny, simply because there is no motivation to sell it.

As far as differences in the actual professional practices are concerned, there are obviously some factors that are culture or statute related, particularly in some specialist areas of child protection and adoption regulations, for example; but there are many areas where the form, style and content of work have features that are common across all the frontiers. I think it's this kind of material which, with a little adaptation is going to be very valuable in Britain.

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CUSSN: *Do you see the software that you'll have for teaching purposes being useful for social service software developers and agency practitioners in the U.S.?*

Glastonbury: I would see it rather the other way around. I think we have to start from the software which is being used in our human service agencies and use that for training purposes. I'm not too keen on the development of material which has a specific and exclusively training focus. It seems to me the best way to train our human service recruits is to subject them to the real material that they're going to use in the agencies, to give them time to get an in depth understanding of it and familiarity in using it.

CUSSN: *Given that you will have hardware, software and manuals in your Center, do you envisage training students on actual systems?*

Glastonbury: I think there are a couple of areas we need to think of. First of all, there is the development of the essential infrastructure for using these kinds of teaching materials within British Human Services education. Nowadays there are plenty of rooms with computers in them that are used for teaching, but there is certainly a view around that human servicing is not one of the areas suitable for the use of computers, and therefore, we have no experience of drawing on those kinds of facilities in our training programs. So there has to be a change of attitude, I think, by British higher education in order to accommodate this development, not only in human services, but in a number of arts related subjects where there is no tradition of using information technology.

I think the second thing to bear in mind is that social work and other professional students spend a good deal of time on practice placements, and many of the good practice settings at the present time will be reasonably well equipped with both hardware and software, and there will certainly be opportunities during practice teaching for students to utilize and work through with their practice teachers some of the programs, both those available from the Southampton Center and also those that are used within the agencies already.

CUSSN: *In your program, how do you schedule exposure to information technology so students will have a basic understanding of the supporting computer systems in the agencies?*

Glastonbury: One of the things expected of students at the moment in many practice placements is that they should develop an ability to sit at a terminal to access the agency's management information system, find for themselves screens of data about the clients that they're taking responsibility for, and maybe undertake some kind of composite analysis of some of the information on the management information system. As far as additional developments are concerned, I think we must in Britain

begin to give a much more important role in the academic curriculum to the development of computing skills. At the moment it's not an obligatory part of any curriculum for professional training; it tends to be there in a small way as an optional extra. I think we've got to change that attitude, to get a firmly embedded curriculum component where we can give some theoretical teaching, but primarily a good deal of hands-on teaching and opportunity for students, so that when they go into the agencies on their practice placements they have lost their fear of computers and already are well equipped to sit down at the agency terminals and start working on them.

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CUSSN: *Does software development in the UK follow the shareware or entrepreneurialship that we have in the U.S., or is it different?*

Glastonbury: The bulk of special purpose software has been written within the data processing or computing services of the local authorities themselves or by consortia of local authorities. Some hardware providers (ICL, for instance, though not IBM) have invested in software development, and there are a few software companies, but only a few. I think consortium arrangements will be one major area of future development. Development costs are very high and local authorities realize that getting together with those with similar interests is one route forward. I don't for the present see any major role for private software vendors who are wanting to make a decent level of profit, because the human services in Britain are on such a small scale compared with that of North America. There are 140 or so social services departments so they don't represent a particularly large market for software.

On the other hand, I think there is going to be, and already is, a growing interest in the shareware notion, and one of the things one would like to see is the British local authority being willing to expose itself a little in terms of its software creations, by making them available through the shareware process. So far shareware is used, but it's essentially shareware that's come across the Atlantic. There is very little that has originated from Britain itself.

CUSSN: *Could you give more detail in terms of how the consortium works? How are they put together? Who starts these processes, central government or individuals? Who are interested in getting a software solution to a problem? What are some of the problems with having a consortia develop software?*

Glastonbury: I'll take first of all the question you asked about the initiative from central government. That's one of the weaknesses of the British system. As far as the major social work agencies are concerned there has been little central initiative at all from the ministry responsible (the Department of Health). Turning to consortia of local authorities, they've come together in a number of ways (such as the Association of Directors of Social Services), primarily because they are already linked in a range of planning and developmental exercises, so that the managers of the agencies do already have opportunities to work together and decide upon investments and developments that it would be worth joining forces to undertake.

The problems they have faced have generally been with the variations and practices that occur between different agencies. They may not be fundamental ones, but they are sufficiently varied to make it difficult sometimes to produce standardized software without a willingness on the parts of the agencies to accommodate their practices to the new software that is being developed. Some of the sectors where this has already produced results include the Home Help Service, for example, where there is fairly considerable standardization in the way care in the community is supported through a range of domiciliary services. There is also now a prospect of very considerable collaboration in the production of software to aid decision support in child abuse cases and keep agencies well in touch with any potential risks of child abuse. In other sectors where there is perhaps less urgency or less existing standardization there has to be more hard talking before there can be shared developments.

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CUSSN: *In a somewhat different direction, how do you see UK social services using information technology in five or 10 years?*

Glastonbury: I think I have already indicated where some aspects of my answer would lie on this. I would probably want to mention three particular developments that are vitally important for our human services in Britain:

1. This is one which everyone must be familiar with – attainment of some kind of compatibility in terms of hardware and software. To some extent because of the lack of central government leadership compatibility doesn't exist at the moment. There has been a good deal of polarization around IBM and ICL standards, but there is still a pretty limited extent to which local authorities can liaise with one another, and this is most blatantly obvious in the real paucity of networking facilities that exist within Britain. Within a particular area it's quite likely that one will find a network link between say, the social services department and the health services or perhaps in one or two areas between the probation service and the local courts. But the notion of networking between local authorities and on any wider basis really hasn't gained a grip at all, and I really hope that this will be one of the major developments of the next few years.

2. This refers to something I mentioned earlier. I think we do need to develop a range of software which is going to be of direct value and will be used by practitioners, those who come face to face with clients. As I was saying, we have pretty

good management information systems at the present time, but there is not very much in those systems for the practitioners. They have to spend a good deal of time providing the raw data that goes into the management systems, but they get relatively little spin off from it. I feel there's got to be an investment, if only to keep the promises made to social workers, that if they get more involved with IT they will get more benefits, and also we must seek to improve the productivity of service professionals in their use of computers.

But the notion of networking between local authorities and on any wider basis really hasn't gained a grip at all, and I really hope that this will be one of the major developments of the next few years.

3. Continuing with the focus on software developments for practitioners, I think we will see an important range of developments in the field of decision support. We have begun to get very interested in Britain in quality control in social work, and in the notion of enabling practitioners to make the most rational and sensible decisions in what are often quite difficult circumstances. We're beginning to see decision support developments in relation to child protection, and I think we shall see them spread more widely. If they are established in a way which is user friendly and doesn't challenge the professional expertise of social workers and other human service professionals, then they will be willingly accepted and will become an integral feature of the way our services handle their workloads in the future.

CUSSN: *You mentioned agency networking which has been of particular interest on my project to get agencies to network using electronic mail and computer bulletin boards. I know other people in the United States have had a fairly difficult time getting practitioners to network. With your state controlled service delivery system, is networking, such as electronic mail and data sharing, more prevalent?*

Glastonbury: Bulletin boards haven't had a very happy history in Britain in relation to anything connected with the human services. There are very few of them around. They haven't been given any encouragement and really we are beginning from scratch in an attempt to develop them. One has to add, I suppose, that the current preoccupation and concern about viruses hasn't helped any pressure that there's been to develop bulletin boards, and it has led to a number of bulletin boards restricting themselves to read only access, which is really very limiting if one is thinking of possible human service applications.

As to the reason why there haven't been bulletin board developments, I don't think that has less to do with central control from the government than with the way our system has been organized at the local authority level. We now have quite large generic social services departments, containing a lot of specialist sections but covering a very wide span of activity, and they have by and large been established on a hierarchical basis, with procedures and systems which encourage vertical communication through the hierarchy but to a considerable extent discourage horizontal communications, even between operational units within the same agency. So we have that blockage to overcome before we can develop networks which in essence serve to promote horizontal communication.

Another reason why we haven't had networks is because local authorities themselves have tended to set up quite firm boundaries around their activities in terms of their interface with local authorities in other parts of the country, so that everything is self contained within those boundaries, and very little, if any, attempt is made to cross them to find out what's happening elsewhere. The networking infrastructure is a further disincentive because of the expense and charging policy of the (near monopoly) telephone service. I think that in order to get through these three impediments, one is going to have to see some really quite major push in networking and, initially at least, development of a network or networks on particularly attractive terms. That is to say terms which keep down costs, and both for the practitioners in agencies and for the agency managers themselves offer really quite beneficial outcomes. At the moment that is something which is highly desirable, but not on the horizon in most places, though a few big agencies (such as Hampshire Social Services Department) now have networks which attract usage by having a great deal of easily accessible information on them.

Perhaps I should add yet another networking gulf exists between agencies and the educational sector, where much training and relevant research is carried out. From the University of Southampton I have much more effective electronic communication with colleagues in the USA than I can with those in British service agencies!

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CUSSN: *Has your project looked at ways to teach our students to network, before they enter the job market, or is this a skill that they are going to have to develop later?*

Glastonbury: I think one has to present initially a fairly gloomy picture of the state of networking in the educational sector. There is a network called JANET (Joint Academic NETwork) which operates for British universities and that's an effective and well used system. But of course in professional training that's in itself insufficient, if one needs the network to extend into the workplaces where much of the professional training takes place. There is no cross networking at all at the moment between the educational sector and the major agency sectors. There's a big barrier to overcome at that point which we must work on.

Coming specifically to the educational scene and how we can encourage networking there, one of the activities that the new center is going to undertake is to establish material on the bulletin board which it is hoped people in British universities, students and staff alike, will access and get accustomed to handling the basic bulletin board provision as being set up

centrally for not only the human services but for other subject areas in universities as well. We all expect new center staff to travel around the country, encouraging and showing people how to make use of that bulletin board and the network opportunities that come with it.

One of the things that I would certainly expect to see developing in the student curriculum is some hands on training in how to access and make use of that kind of bulletin board facility. What we don't find and I don't think will find in the near future are the localized developments of bulletin boards, the kind of bulletin boards that are established by and for student groups in all kinds of settings which really give them plenty of experience not only in using a bulletin board but often in setting it up and running it as a training exercise. That, I think, has quite a long way to go before it arrives in Britain, or indeed, anywhere else in Europe.

CUSSN: *Any other areas that you think are going to be important or any other comments you would like to make?*

Glastonbury: Yes, there are a couple of points I would like to make, different from what we've discussed so far. One really has to be concerned with the development of technology in general and the way that the progress on the technological side appears to have outstripped the appropriate development of value systems to accommodate to this new technology. I think we have a vitally important need, not only in the human services but across a great range of information technology applications to really scrutinize, assess, and pay attention to the values that are and should underpin those developments. I'm very much looking forward in the next year or so to be working with Walter LaMendola on this subject and we hope that we'll be able to produce some provocative papers to stimulate your interest in all of this.

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Secondly, and coming down more specifically to the human services, I think it's true to say that in Britain, and probably in the rest of Europe, human service professionals for all sorts of reasons have tended to keep new technology at arm's length. Sometimes it's fear, sometimes it's a view that there's not much in it for them, sometimes it's the experience of an initial contact that has been a rather unfriendly and unhelpful one, and this has deterred them from making further attempts. But whatever the motivation for this I think the results have been very damaging for professionals, because there is no doubt about the forward role of the information technology development. If it's not controlled by professionals then it's going to be controlled by somebody else. At present it's my view that as far as human service professionals are concerned, technology developments aren't quite out of control. It does seem to be vitally important that social workers and others begin to reassert the essential role they have in controlling the way that we use our technologies in working to meet clients' needs.§

Interview with Steven Mendelsohn

Director, Smiling Interface, POB 2792, Church St. Station, NY, NY 10008-2792.

CUSSN: *Steve, could you give us an idea of your background and your specialty area?*

Mendelsohn: Well Dick, thank you very much for the opportunity of speaking to you today. I am a lawyer and rehabilitation practitioner from New York City who, as a result of getting involved with the establishment of a job placement program for visually handicapped persons in the early 1980s, came to realize the central and growing importance of technology as a tool for job placement and job performance. It was an easy enough matter at that time to learn about what the technology did. What quickly emerged as being far more problematical was the question of how people could get the technology, given that it was expensive and given that the service system for disabled persons was not really oriented toward it's provision. As such, I became progressively more interested in the funding dimension, seeing myself increasingly as a bureaucratic engineer, so to speak, rather than as a rehabilitation engineer.

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The end result of this was my decision in 1986 to research and write a book, which came out in 1987 called Financing Adaptive Technology: A Guide To Sources and Strategies for Blind and Visually Impaired Users. Although the subtitle does reflect a special concern with one disabled subgroup, most of the book's contents are applicable to all disability groups generically across the board.

CUSSN: *Could you give us a sketch of where we have been in terms of funding for technology?*

Mendelsohn: Well, where we have been is that we started with nothing and now we have something. We are going to have more. What we have now is not adequate. What we will have in the foreseeable future will still not be adequate, but will at least be progressively less inadequate, so to speak.

When you speak of funding for adaptive technology, various terminologies have been used to address high tech such as computer assisted devices, adaptive technology, rehabilitation technology, etc. I think the term that is going to come increasing into prominence is the term assistive devices technology or assistive devices, because of the federal Technology-Related Assistance for Individuals with Disabilities Act, TRAIDA, as I like to call it for the benefit of you opera and acronym fans. TRAIDA uses the terms "assistive technology devices" and "assistive technology services" and I think those terms will become standards, so I might as well start using those terms too.

When we speak of the funding of assistive technology, we are really speaking about a couple of inter- related issues. First, obviously we are speaking about research and development and then we are speaking about purchase of this technology by the consumer (the end user). The consumer

may, in some instances, be either an agency or institution or a service provider, or may be an individual consumer or family. Therefore, when we speak of funding, we are concerned mainly with how the end users, be they individuals or agencies, obtain the financing necessary to acquire these devices. This can be done either by oneself, through ones own means, self-financing, as it were or it can be done through third party financing, that is with someone else's money. Obviously, if a rehabilitation agency or a foundation provides technology for individuals, that is a good example of third party financing. If the individual saves up money and provides the financing for him/herself, that is a classic example of self-financing. Many other sources sort of fall somewhere in the middle and split that difference.

When we speak of the funding of assistive technology, we are really speaking about a couple of inter-related issues.

If, for example, you are able to obtain the assistive technology devices you need through a loan, that is not strictly speaking self-financing, although in the end it becomes self-financing when you pay back the loan. If you are able to obtain the technology because of your ability to reduce the net cost of buying it through sophisticated use of the tax system, there again, in a certain sense, I suppose it could be said that other taxpayers are in some part subsidizing your purchase. So the line between these two methods is sometimes a bit blurred, and it gets further blurred when we realize that, for any configuration that an individual may need which involves more than one component, each of those components may be financed in different ways. Beyond the cost of devices themselves, there is a need to create and maintain a supporting infrastructure of assistive technology services. This includes personal, facilities, informational media and other resources, which – though they are somewhat more readily financed than the devices are – remain in all too short supply due to a number of factors.

CUSSN: *Currently, would you say that assistive device funding falls into the medical arena, the vocational/rehabilitational arena, or the educational arena? While it may fall somewhat in all of those arenas, do you see it primarily being financed by one? Or, do you see a pluralistic approach like we have now as more feasible?*

Mendelsohn: That is exactly right. As I said a few moments ago, we started with nothing and now we have something. And precisely the reason that we started with nothing is because none of those service systems, none of those conceptual models was really very suited to incorporating technology into it's frame of reference. For example, medical technology: well, yes assistive devices are medical technology to the extent that they are prescribed or recommended by doctors. Wheelchairs are prescribed by doctors, but not strictly speaking as treatment for disease. Rather, they may have a social or long-term rehabilitative or even vocational purpose. Some have been accepted by the medical insurance system, others have not. So, we try another tack and say our equipment is rehabilitative; and it is true as you point out that the rehabilitation system is our largest single source of third-party funding for assistive technology today. But rehab may say "no" because it's not directly enough connected with or because it will not insure a successful vocational outcome. Or, is it a business expense? Well, in the case of people who are working whether their employers are paying for the equipment or whether they themselves are able to do so by reason of their earnings, then one might see it as an expense arising out of business. So it is all of those, and it depends on the source of the money, the purpose for which the money is perceived to be spent, and the context in which the money is being used.

CUSSN: *Doesn't that put the consumer in a problematic situation in that there is really no one place or source? It seems like the consumer has to fight many battles and know all the ins and outs of major systems.*

Mendelsohn: That's right. That is exactly why I wrote the book that I did. On a level not too far below the surface, my book can be seen as a kind of bureaucratic gorilla warfare manual. The consumers, in addition to all the other issues they are confronted with in trying to decide what technology would be right for them, are faced with the additional and often excruciating bureaucratic challenge of figuring out which third party sources and which techniques for generating self-financing are relevant in their particular cases, and figuring out in what order to try to access them, with what kind of arguments to sway them and to what extent to try to rely on them; and having understood the particular role of each, to figure out how the puzzle which their diversity and fragmentation represents can somehow be put together.

...my book can be seen as a kind of bureaucratic gorilla warfare manual.

CUSSN: *Is that situation the way it should be? Should the consumer be the one who has to, in a sense, integrate the delivery system? Could you see it operating better by maybe some group, some profession, or some system taking a lead role and coordinating things for the consumer? Or, do you think it is always going to be a consumer driven system?*

Mendelsohn: We want it to be a consumer driven system in so far as input to equipment developers is concerned, and we want it to be a consumer-driven system in terms of what people want and need and in so far as the individual choice among competing technologies is concerned. In those respects, we want it to be a consumer driven system, but in other respects we don't.

I guess the best example is this: The restaurant business is a consumer driven system. If people didn't go to restaurants to eat, there would be no restaurants, but nobody expects the consumer, upon arriving at the restaurant to go into the kitchen and cook the meal. That being so, we really do need better coordination with respect to the financial resources that go into the system, the relationship of those financial sources to other forms of assistance and in particular the minimization and elimination of unnecessary disincentives to work and to technology acquisition.

We also need greater coordination with respect to the kinds of expertise that all consumers want and need and have the right to draw upon. It wouldn't be thinkable for many people to buy an electronic item or computer without going to the library and looking up various computer magazines or,

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in the case of home appliances, Consumer Reports and so on. And, it wouldn't be expected that a consumer of mainstream computers would not have a good manual or could not expect reasonable customer support, a good service contract, etc. When you think about it, no one would try to compete in the mainstream computer market without thinking about marketing strategies, including consumer credit and so forth as an element of the overall development and implementation of their product. So we do need greater coordination in all of those respects and most of all in the identification and coordination of expert resources which are scarce in relation to the need, but which we must have so that people can get the information that they need as consumers and as service providers to help make the most appropriate choices.

In this connection by the way, I want to complement the University of Texas at Arlington for the work being done there on these issues. For the present, there is no one who could take a predominant or centralizing role in technology financing, because no profession or institution has the scope of knowledge or the programmatic jurisdiction that would be required. The medical model continues to be pervasive, not because medical personnel are necessarily prescribing most of the equipment, but because professional experts in various disciplines are making decisions about what potential technology users need. The more that experts can be put at the service of people with disabilities, so that they can make their own informed decisions, the more effective will the system become.

CUSSN: *The consumer driven system you are describing is basically a marketplace system. Other service delivery models exist, say in the Scandinavian countries. Do you see us moving into more of a market economy with assistive devices or do you think we are moving the other way into more government provision?*

Mendelsohn: Well the pattern for government involvement has probably been set by the TRAIDA Act, and what that does is to essentially recognize assistive technology devices and assistive technology services as a legitimate area of need among disabled people and a legitimate area for the provision of governmental input in the form of services and funding. That being so, there is likely to be stimulation of the market. The infusion of funds into a variety of technology-related activities and service programs under TRAIDA will certainly stimulate demand and thereby contribute to further research and development efforts. This should lead in turn to a proliferation of equipment vendors and service providers.

We have both centralization and decentralization at the same time: centralization in terms of a somewhat more coherent pattern of government involvement in the funding, decentralization in the sense of an increasing number of products and vendors and of accelerating turnover in the identity of providers and vendors. I don't see necessary tension between those two.

CUSSN: *If we look at the medical model of technology, we have a huge demand for such technologies as organ transplants and mechanical devices with limited supply and limited funds to pay for the supply. In the funding system you are describing, how is the balance between what we can afford with what we need worked out? How is it decided whether one individual gets something and another individual does not?*

Mendelsohn: Well, right now it tends to be decided rather arbitrarily or randomly. On the first level, it is a function of the personal economic resources of disabled people. If someone has some money or has a family member co-sign for a loan, etc., they can often go out and get what they need. Secondly, beyond money, access is a function of knowledge of how to manipulate certain bureaucracies like rehabilitation or Medicaid, or simply a matter of luck based on what individual you happen to be dealing with in the service system. Even where a service system has a rational basis for allocating its technology resources among its clients, there is little basis for believing that its criteria coincides with any broader societal priorities.

Secondly, beyond money, access is a function of knowledge of how to manipulate certain bureaucracies like rehabilitation or Medicaid, or simply a matter of luck...

However, the real critical difference between thinking of assistive technology in terms of this resource allocation model on the one hand, and thinking about organ transplants as an example of that model on the other, is that properly used assistive technology is generative in a very unique way. If you, for example, follow a practice and a policy of using assistive device technology as a means of enabling people to enter, retain and move up in employment, it quickly begins to become an income generating vehicle for government or whoever else is involved. If a lender is involved, it becomes income generating in the sense that the loan is paid back with whatever is the prevailing rate of interest. If governments, on a grant basis, are involved, the equipment nevertheless becomes a generator of tax revenues and a means for reducing dependency. So it is arguable that a properly designed and well considered technology program actually, in the end, frees up resources by converting people.

Now this argument can easily be overstated and oversold and investment strategies and theories have never been very popular with government anyway. I don't mean to try to oversell it. I don't know that the ratio is really 8 to 1, that is, for every dollar spent on rehabilitation of people with disabilities, eight dollars is either saved or added to government revenues in terms of increased productivity. I wouldn't care to specify a precise ratio, but the principle is undoubtedly correct and becomes more so over time when we focus on technology.

If you, for example, follow a practice and a policy of using assistive device technology as a means of enabling people to enter, retain and move up in employment, it quickly begins to become an income generating vehicle...

And this is to a certain degree what the European countries understand. The alternative, in a country not necessarily committed to maximizing the productivity of each individual, is to say that we will at least make humane arrangements. But you can't have it both ways and the possibilities for employment for large numbers of disabled people today, – if they have skills, which they do, if they have motivation, which they do, and if they can have the appropriate technology which they sometimes do not, – are more real and more tangible in terms of equality and in terms of economic impact than they have ever been. Organ transplants are an investment in humaneness more than in productivity. They are eminently justifiable but they raise different issues.

CUSSN: *One of the things that we are seeing is a multitude of devices which would be very useful for people who may never enter the workplace. With employability as one of the major criteria, what happens to those people?*

Mendelsohn: I certainly agree that were employability to be the only justification for prioritizing people under technology policy, great harm would be done. One of two things would happen. Either the concept of employability would be stretched beyond recognition to accommodate people to whom it didn't really apply, or worse yet, as you suspect, substantial numbers of people would be left out. I don't believe that it is necessary to weed large numbers of people out, because even beyond the question of employability, there is enormous opportunity for making a cost benefit argument in relation to the technology in a lot of settings.

Let us begin at the entry end of the life cycle so to speak and then move to the exit end of the life cycle. At the entry end of the life cycle, in infancy and school again there can be little question that investments in technology to the extent that they will help people compete educationally and equip them for life, will have long term benefits for society. This is so not only in the fairly ethereal ways of making happier, more "productive" people. It also will result in a reduction of chronic or structural unemployment among disabled people and so presents technology and education as the kind of investment which could be justified in very much the ways that even the most hard-headed accountant would accept.

Now, what about severely multi-handicapped persons of working age who hypothetically cannot work under any conceivable circumstances, or who could not make enough to make a difference if they did? Again, even here technology can have beneficial implications in terms of reducing other kinds of cost associated with the dependency. Obviously, none of us want to see a society in which all home attendants have been replaced by computerized environmental control systems but far short of that, there are tremendous opportunities for a reduction in certain kinds of costs and for redeployment of resources.

Among our aged population, and our population is aging in the aggregate, the instrumental use of technology can significantly combat the functional deficits and social isolation that too often accompany the advance of years. These benefits may not always be quantifiable, but there is growing reason to believe that they too can reduce a number of secondary costs.

Obviously, none of us want to see a society in which all home attendants have been replaced by computerized environmental control systems but far short of that, there are tremendous opportunities for a reduction in certain kinds of costs and for redeployment of resources.

CUSSN: *So when you talk about limiting access to technology, you are dropping back into a cost-benefit model, even though some of the benefits are psychological and social in nature. Is there another model which we could use?*

Mendelsohn: I am not so optimistic or so naive as to believe that in the absence of a creditable and plausible cost effectiveness rationale, I can persuade legislators and budgeters and ultimately society at large of the desirability of this technology. However, I do not believe that the primary justification for its development and its maximum possible dissemination either does or should rest in cost effectiveness. Not because cost effectiveness is hard to prove, but because cost effectiveness is only a small part of what is going on.

I am not so optimistic or so naive as to believe that in the absence of a creditable and plausible cost effectiveness rationale, I can persuade legislators and budget writers and ultimately society at large of the desirability of this technology.

Let me give you two examples of how and why that is so. First of all, if a society determines to treat a group of people in a particular way, it does so because of it's theories, what for lack of a better term, I must call social engineering, it does so for its own engineering reasons, and it does so out of its own sense of right and wrong. So, one can argue that in a society which is increasingly asked to bring to bear the creative effort required for solving its enormous problems, that a society in that situation desires for its own reasons and its own sake:

- to make the maximum possible use of the potential of each of its citizens for its collective good, not particularly for theirs, but for its own good; and
- to demonstrate, as a model and a precedent, that numbers of previously marginal citizens can be empowered to participate most fully in that common destiny which they alike share. Society does this, if it does it, for its own reasons, just as it inducts people into its military. It does not do it out of sympathy or out of mystical admiration. And this is the other dimension of the non-cost effectiveness rationale. It is right to provide this technology, if it can bring about a fuller participation in society, a greater economic independence, a larger measure of, ever difficult to define, personal productivity on the part of disabled persons.

We do not provide a free public education because we think or believe that everyone who receives it is going to

become a genius or a great contributor to society. We do not offer people constitutional rights, legal representation if indigent when tried for a crime because we necessarily believe they are innocent. We do not do any number of things on those kinds of bases. We do them because we think they are right. If we take our country's international posture in the world, it could not be justified economically on cost effectiveness grounds, the amount of money that we spend for our defense and so forth. We do it because we believe it is right.

So is it also here. Fundamentally, one should not shrink from stating, categorically, that utilizing technology to enhance the productivity and quality of life for disabled people simply and clearly is right.

Fundamentally, one should not shrink from stating, categorically that utilizing technology to enhance the productivity and quality of life for disabled people simply and clearly is right.

CUSSN: *In a different vein, gaze into your crystal ball. Are we at the very beginning stage or are we well into the age of assistive technology? Can you speculate upon what the end stages will look like.*

Mendelsohn: Well, assistive technology is really only a small subset of all technology. The computers and the specialized assistive peripherals that people with sensory or physical impairments use cannot really be very well understood without some reference to the development of computer technology in society at large. They are artifacts of outgrowths of that large development, so consequently, the future of assistive technology in terms of what it actually can do and what it will enable to be done by whom remains an element within the broader pattern of the evolution of computer technology, electronics technology, communication technology, etc. for society as a whole.

I have no reason to believe that the information revolution is anywhere near to completion of its unfolding and no reason to believe that the postindustrial society is anything other than in its infancy and so will it be for the assistive technology that is part of it. So it would be impossible for me to imagine what will be available, what it will do, what it will enable individuals to do for themselves in ten years anymore than I could ten years ago imagine what is available now.

I have no reason to believe that the information revolution is anywhere near to completion of its unfolding and no reason to believe that the postindustrial society is anything other than in its infancy and so will it be for the assistive technology that is part of it

CUSSN: *What you are saying is that it is very difficult to crystal ball gaze in this field, because we are in its infancy.*

Mendelsohn: That's right. And again, the social effects have to be looked at in parallel too. If we look at what the social effects of technology have been to society at large, we see that to a very considerable degree those effects have been tracked or paralleled in the disabled sector. We know, obviously that technology, and I am using computers here as a sort of shorthand for technology, that technology has allowed people to do things on a regular basis in their homes that were previously fairly centralized. Let's take desktop publishing for example as a reality. You can now, in your home, print and publish a book pretty much as attractive and professional in its appearance as a commercial publisher. It takes a little work, but you can do it and people are doing it more and more. So also, with disabled people, and we need not be talking about publishing a book. We can be talking about doing school work or doing work on a job. We see the implications that it has had for banking. People in their money management have a great deal more flexibility in terms of the immediacy of information availability and in terms of methods for quickly transferring funds, whether those funds are large or limited. And again, also with disabled people. We see new kinds of educational opportunities coming into existence through the use of computers. Whole new ways of educating people, parallel again.

I don't know if all of these things are necessarily good or bad. For all I know, it may well be that the ability to produce something easily on a word processor in some way correlates with the impoverishment of writing and literacy in this society, I don't know. There are those who argue that it does and the argument is not totally fallacious. If it does, I suppose that, again, we will have to expect the same result among disabled people. On the other hand, if it does and disabled people can take advantage of the opportunities that literacy will provide if literacy becomes a relatively rare commodity, then the parallelism might disappear.

Computers we know provide a degree of equality, in part because of anonymity and in part because of the functions they support, they may radically alter the attitudinal barriers that disabled people face as well. People on networks sharing databases, sharing bulletin boards are equal in a way that society has never allowed them to be before. Their races are non- existent, their genders are non-existent and in a certain real sense, their disabilities are non-existent. That's important.

People on networks sharing databases, sharing bulletin boards are equal in a way that society has never allowed them to be before. Their races are non-existent, their genders are non- existent and in a certain real sense, their disabilities are non- existent. That's important.

The way that people work has been changed by computers. Again, the telecommuter may be a bit of an overstatement in terms of any broad-based trend in society, but more and more it is possible and people can work from their homes and can work interactively in ways that were not

possible before. Those are very important things. So all of these social trends have to be played out and have to be watched and may or may not continue in the directions in which they are now set

CUSSN: *Would there be anything else you would like to add from your perspective?*

Mendelsohn: Yes. I'd like to talk a little bit if I may about what the likely, near-term funding model is going to be.

I believe that we have to do three things. First of all – and we are on the path to doing this – we have to recognize assistive technology devices and services as a relevant area of concern in its own right. In some cases the need may be medical, in some cases educational, and in some cases rehabilitative; but technology transcends these traditional categories. That is beginning to happen. That doesn't necessarily imply a large increase in the amount of governmental or philanthropic funding going toward disability-related causes. That involves, to a much greater degree, a reallocation of those resources in light of the probability that some of the things that we now do are, or will be rendered anachronistic by the greater investment in technology.

The second thing we have to do is to reduce and eliminate, so far as possible, the disincentives that currently exist in law to efforts on the part of disabled people to acquire their own technology. For example, we know that the social security system, social security disability insurance and SSI represent potentially enormous pools of resources for the acquisition of technology because in many cases it is possible for beneficiaries and recipients under both of these programs to continue receiving benefits while earning wages provided the money that they earn from employment is put to certain specified uses including the acquisition of job-related equipment. The nature and existence of these work incentives in law have to be made as well known to people as the disincentives are and government policy has to be applied so as to favor the use of these incentives on a day-to- day basis.

A related and key point here is that with respect to all bureaucracies, the service system must commit itself not only to the integration of assistive device technology into its services, its evaluations, its goals and its methods; but also, as an element of that integration, the establishment of expertise about how to fund the stuff as a key dimension of professional competency within the various professional disciplines involved.

The second thing we have to do is to reduce and eliminate, so far as possible, the disincentives that currently exist in law to efforts on the part of disabled people to acquire their own technology.

Seems to me that every state should have, within its network of public and nonprofit service providers, a group or individual whose sole or primary responsibility is to understand exactly what every possible source is that can be identified, how they work, how they fit together and how they can be accessed.

The next, and very important thing is loans, because ultimately loan capital represents the largest source of funding that is available. We need only think of the fact that our entire economy is based on consumerism, which is credit driven, and that our business system is increasingly based on debt, to know what loans can mean. When we speak of loans, we speak of:

- the kinds of loans that individuals routinely get from banks or other financial institutions;
- the extent to which the providers of technology regard the competition for markets as extending to the provision of financing,
- and finally we speak of the role of government and non-profit loan and loan guarantee programs which are growing in number and which, I believe will come to be the primary model of government involvement. A number of states have such programs. You and many of your readers may know that one of the provisions of TRAIDA involves a study to be conducted by the National Council on Disability which I believe will consider this question of possible federal loan or loan guarantee programs.

The next, and very important thing is loans, because ultimately loan capital represents the largest source of funding that is available.

We must also address, in very similar ways really, the questions of training of users and training of service providers who will help individual users identify the right technology for them. The questions of technical support for equipment and its use, questions of service, the development of responsible purchasing policies on the part of institutional purchasers and responsible sales practices on the part of vendors are also imperative. If these things are done, I believe that they can and will be done, we will see a tremendous extension of the degree to which this technology penetrates into those places in society where it will do the most good.

CUSSN: *One final item, could you mention the availability of your book and how readers could get a copy?*

Mendelsohn: Oh yes. Well, thank you. The book is entitled "Financing Adaptive Technology: A guide to sources and strategies for blind and visually impaired users." It is available in a variety of media, including large print, braille, four-track audio cassette, Apple disk, and IBM disk. It's available for $23 in any medium from the publisher, which is Smiling Interface, P.O. Box 2792, Church Street Station, NY, NY 10008-2792, telephone (212) 222-0312. We do accept official purchase orders from agencies or firms. Regrettably we can't accept credit cards because that would have driven up the cost for all purchasers. We ask New York State purchasers, if they are not tax exempt, to enclose sales tax and we welcome any inquiries by letter or by phone regarding the book itself or regarding this overall subject that anyone would care to make.§

AN SPSSx SUBROUTINE FOR SCORING THE DEFINING ISSUES TEST

Carmelo Cocozzelli, Ph.D. Assistant Professor, College of Social Work, University of Tennessee at Knoxville, Henson Hall, Knoxville TN 27996-3333.

Overview

An SPSSx subroutine which scores the short form of the Defining Issues Test (DIT) has recently been developed by Dr. Carmelo Cocozzelli of the University of Tennessee College of Social Work in Knoxville. The DIT, developed by James Rest (1979), is a valid and reliable measure of the degree to which individuals are capable of "principled" thinking. This instrument, which has been subjected to numerous psychometric evaluations over a 20 year period, utilizes six ethically-ambiguous vignette situations with a variety of possible solutions which require respondents to choose among.

The DIT has been typically used in research on human values and their development. A comprehensive list of research involving this instrument can be found in Rest (1979). Normative data on a variety of populations is also included in Rest (1979).

The SPSSx subroutine scores the short form of the DIT (the Newspaper, Heinz, and Prisoner vignettes). The major advantage to the subroutine is that an investigator can use the complete range of SPSSx inferential or descriptive statistics as well as employ other personality or attitude inventories in their research using the DIT. The full range of methods of statistical analysis available on SPSSx can be utilized by investigators with access to a mainframe or microcomputer environment simply by embedding the subroutine into an existing SPSSx program.

The subroutine defines the untransformed DIT responses from the instrument and weights them according to the instructions for hand scoring on pages 3.1-3.3 of Rest's (1979)

Revised Manual

Again, the DATA LIST card and the variables there defined correspond to the short form version of the DIT including the following three vignettes: Newspaper, Heinz, and Prisoner. The subroutine calculates all of the stage raw scores and the corresponding percent scores, including the M score used as a reliability check. A copy of the subroutine is included in the following pages. This particular example creates an SPSSx system file including data definition and raw data.

The subroutine has been used on an IBM 3081-D in an IBM OS/MVS environment at both the Universities of Illinois and Hawaii.

Notes

Rest, J. Revised Manual for the Defining Issues Test: An Objective Test of Moral Judgment, Minneapolis: Minnesota Moral Research Projects, 1979.

```
TITLE 'VALUES STUDY CONTROL FILE'
SET BLANKS=0
DATA LIST FILE=INLINE RECORDS=2
      /1 SUBJECT 1-3
      /2 NWDECSN 3 NW01RT4 5 NW02RT4 6 NW03RT2 7 NW04RT4 8
      NW05RTM 9 NW06RT5A 10 NW07RT3 11 NW08RT3 12
      NW09RT5B 13 NW10RT5A 14 NW11RT4 15 NW12RT3 16
       NWRK1 18-19 NWRK2 20-21 NWRK3 22-23 NWRK4 24-25
      PRDECSN 27 PR01RT3 29 PR02RT4 30 PR03RTA 31 PR04RT4 32
      PR05RT6 33 PR06RTM 34 PR07RT3 35 PR08RT4 36
      R09RT3 37 PR10RT4 38 PR11RT5A 39 PR12RT5A 40
      PRRK1 42-43 PRRK2 44-45 PRRK3 46-47 PRRK4 48-49
      HZDECSN 51 HZ01RT4 53 HZ02RT3 54 HZ03RT2 55 HZ04RTM 56
      HZ05RT3 57 HZ06RT4 58 HZ07RTM 59 HZ08RT6 60
      HZ09RTA 61 HZ10RT5A 62 HZ11RT3 63 HZ12RT5A 64
      HZRK1 66-67 HZRK2 68-69 HZRK3 70-71 HZRK4 72-73
MISSING VALUES NWDECSN PRDECSN HZDECSN NW01RT4
      TO NW12RT3 PR01RT3 TO PR12RT5A HZ01RT4 TO
      HZ12RT5A (9) NWRK1 TO NWRK4 PRRK1 TO
       PRRK4 HZRK1 TO HZRK4 (99)
COMPUTE NWRKWT1=4
COMPUTE NWRKWT2=3
COMPUTE NWRKWT3=2
COMPUTE NWRKWT4=1
COMPUTE PRRKWT1=4
COMPUTE PRRKWT2=3
COMPUTE PRRKWT3=2
COMPUTE PRRKWT4=1
COMPUTE HZRKWT1=4
COMPUTE HZRKWT2=3
COMPUTE HZRKWT3=2
COMPUTE HZRKWT4=1
IF    (NWRK1 EQ 1) NSG14PA=NWRKWT1
IF    (NWRK1 EQ 2) NSG14PB=NWRKWT1
IF    (NWRK1 EQ 3) NSG12P=NWRKWT1
IF    (NWRK1 EQ 4) NSG14PC=NWRKWT1
IF    (NWRK1 EQ 5) NSG1MP=NWRKWT1
IF    (NWRK1 EQ 6) NSG15APA=NWRKWT1
IF    (NWRK1 EQ 7) NSG13PA=NWRKWT1
IF    (NWRK1 EQ 8) NSG13PB=NWRKWT1
IF    (NWRK1 EQ 9) NSG15BP=NWRKWT1
IF    (NWRK1 EQ 10) NSG15APB=NWRKWT1
IF    (NWRK1 EQ 11) NSG14PD=NWRKWT1
IF    (NWRK1 EQ 12) NSG13PC=NWRKWT1
IF    (NWRK2 EQ 1) NSG24PA=NWRKWT2
IF    (NWRK2 EQ 2) NSG24PB=NWRKWT2
IF    (NWRK2 EQ 3) NSG22P=NWRKWT2
IF    (NWRK2 EQ 4) NSG24PC=NWRKWT2
IF    (NWRK2 EQ 5) NSG2MP=NWRKWT2
IF    (NWRK2 EQ 6) NSG25APA=NWRKWT2
IF    (NWRK2 EQ 7) NSG23PA=NWRKWT2
IF    (NWRK2 EQ 8) NSG23PB=NWRKWT2
IF    (NWRK2 EQ 9) NSG25BP=NWRKWT2
IF    (NWRK2 EQ 10) NSG25APB=NWRKWT2
IF    (NWRK2 EQ 11) NSG24PD=NWRKWT2
IF    (NWRK2 EQ 12) NSG23PC=NWRKWT2
IF    (NWRK3 EQ 1) NSG34PA=NWRKWT3
IF    (NWRK3 EQ 2) NSG34PB=NWRKWT3
IF    (NWRK3 EQ 3) NSG32P=NWRKWT3
IF    (NWRK3 EQ 4) NSG34PC=NWRKWT3
IF    (NWRK3 EQ 5) NSG3MP=NWRKWT3
IF    (NWRK3 EQ 6) NSG35APA=NWRKWT3
IF    (NWRK3 EQ 7) NSG33PA=NWRKWT3
IF    (NWRK3 EQ 8) NSG33PB=NWRKWT3
IF    (NWRK3 EQ 9) NSG35BP=NWRKWT3
IF    (NWRK3 EQ 10) NSG35APB=NWRKWT3
IF    (NWRK3 EQ 11) NSG34PD=NWRKWT3
IF    (NWRK3 EQ 12) NSG33PC=NWRKWT3
IF    (NWRK4 EQ 1) NSG44PA=NWRKWT4
IF    (NWRK4 EQ 2) NSG44PB=NWRKWT4
IF    (NWRK4 EQ 3) NSG42P=NWRKWT4
IF    (NWRK4 EQ 4) NSG44PC=NWRKWT4
IF    (NWRK4 EQ 5) NSG4MP=NWRKWT4
IF    (NWRK4 EQ 6) NSG45APA=NWRKWT4
IF    (NWRK4 EQ 7) NSG43PA=NWRKWT4
IF    (NWRK4 EQ 8) NSG43PB=NWRKWT4
IF    (NWRK4 EQ 9) NSG45BP=NWRKWT4
IF    (NWRK4 EQ 10) NSG45APB=NWRKWT4
IF    (NWRK4 EQ 11) NSG44PD=NWRKWT4
IF    (NWRK4 EQ 12) NSG43PC=NWRKWT4
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IF    (PRRK1 EQ 2) PSG14PA=PRRKWT1
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IF    (PRRK1 EQ 4) PSG14PB=PRRKWT1
IF    (PRRK1 EQ 5) PSG16P=PRRKWT1
IF    (PRRK1 EQ 6) PSG1MP=PRRKWT1
IF    (PRRK1 EQ 7) PSG13PB=PRRKWT1
IF    (PRRK1 EQ 8) PSG14PC=PRRKWT1
IF    (PRRK1 EQ 9) PSG13PC=PRRKWT1
IF    (PRRK1 EQ 10) PSG14PD=PRRKWT1
IF    (PRRK1 EQ 11) PSG15APA=PRRKWT1
```

```
IF      (PRRK1 EQ 12) PSG15APB = PRRKWT1
IF      (PRRK2 EQ 1) PSG23PA = PRRKWT2
IF      (PRRK2 EQ 2) PSG24PA = PRRKWT2
IF      (PRRK2 EQ 3) PSG2AP = PRRKWT2
IF      (PRRK2 EQ 4) PSG24PB = PRRKWT2
IF      (PRRK2 EQ 5) PSG26P = PRRKWT2
IF      (PRRK2 EQ 6) PSG2MP = PRRKWT2
IF      (PRRK2 EQ 7) PSG23PB = PRRKWT2
IF      (PRRK2 EQ 8) PSG24PC = PRRKWT2
IF      (PRRK2 EQ 9) PSG23PC = PRRKWT2
IF      (PRRK2 EQ 10) PSG24PD = PRRKWT2
IF      (PRRK2 EQ 11) PSG25APA = PRRKWT2
IF      (PRRK2 EQ 12) PSG25APB = PRRKWT2
IF      (PRRK3 EQ 1) PSG33PA = PRRKWT3
IF      (PRRK3 EQ 2) PSG34PA = PRRKWT3
IF      (PRRK3 EQ 3) PSG3AP = PRRKWT3
IF      (PRRK3 EQ 4) PSG34PB = PRRKWT3
IF      (PRRK3 EQ 5) PSG36P = PRRKWT3
IF      (PRRK3 EQ 6) PSG3MP = PRRKWT3
IF      (PRRK3 EQ 7) PSG33PB = PRRKWT3
IF      (PRRK3 EQ 8) PSG34PC = PRRKWT3
IF      (PRRK3 EQ 9) PSG33PC = PRRKWT3
IF      (PRRK3 EQ 10) PSG34PD = PRRKWT3
IF      (PRRK3 EQ 11) PSG35APA = PRRKWT3
IF      (PRRK3 EQ 12) PSG35APB = PRRKWT3
IF      (PRRK4 EQ 1) PSG43PA = PRRKWT4
IF      (PRRK4 EQ 2) PSG44PA = PRRKWT4
IF      (PRRK4 EQ 3) PSG4AP = PRRKWT4
IF      (PRRK4 EQ 4) PSG44PB = PRRKWT4
IF      (PRRK4 EQ 5) PSG46P = PRRKWT4
IF      (PRRK4 EQ 6) PSG4MP = PRRKWT4
IF      (PRRK4 EQ 7) PSG43PB = PRRKWT4
IF      (PRRK4 EQ 8) PSG44PC = PRRKWT4
IF      (PRRK4 EQ 9) PSG43PC = PRRKWT4
IF      (PRRK4 EQ 10) PSG44PD = PRRKWT4
IF      (PRRK4 EQ 11) PSG45APA = PRRKWT4
IF      (PRRK4 EQ 12) PSG45APB = PRRKWT4
IF      (HZRK1 EQ 1) HSG14PA = HZRKWT1
IF      (HZRK1 EQ 2) HSG13PA = HZRKWT1
IF      (HZRK1 EQ 3) HSG12P = HZRKWT1
IF      (HZRK1 EQ 4) HSG1MPA = HZRKWT1
IF      (HZRK1 EQ 5) HSG13PB = HZRKWT1
IF      (HZRK1 EQ 6) HSG14PB = HZRKWT1
IF      (HZRK1 EQ 7) HSG1MPB = HZRKWT1
IF      (HZRK1 EQ 8) HSG16P = HZRKWT1
IF      (HZRK1 EQ 9) HSG1AP = HZRKWT1
IF      (HZRK1 EQ 10) HSG15APA = HZRKWT1
IF      (HZRK1 EQ 11) HSG13PC = HZRKWT1
IF      (HZRK1 EQ 12) HSG15APB = HZRKWT1
IF      (HZRK2 EQ 1) HSG24PA = HZRKWT2
IF      (HZRK2 EQ 2) HSG23PA = HZRKWT2
IF      (HZRK2 EQ 3) HSG22P = HZRKWT2
IF      (HZRK2 EQ 4) HSG2MPA = HZRKWT2
IF      (HZRK2 EQ 5) HSG23PB = HZRKWT2
IF      (HZRK2 EQ 6) HSG24PB = HZRKWT2
IF      (HZRK2 EQ 7) HSG2MPB = HZRKWT2
IF      (HZRK2 EQ 8) HSG26P = HZRKWT2
IF      (HZRK2 EQ 9) HSG2AP = HZRKWT2
IF      (HZRK2 EQ 10) HSG25APA = HZRKWT2
IF      (HZRK2 EQ 11) HSG23PC = HZRKWT2
IF      (HZRK2 EQ 12) HSG25APB = HZRKWT2
IF      (HZRK3 EQ 1) HSG34PA = HZRKWT3
IF      (HZRK3 EQ 2) HSG33PA = HZRKWT3
IF      (HZRK3 EQ 3) HSG32P = HZRKWT3
IF      (HZRK3 EQ 4) HSG3MPA = HZRKWT3
IF      (HZRK3 EQ 5) HSG33PB = HZRKWT3
IF      (HZRK3 EQ 6) HSG34PB = HZRKWT3
IF      (HZRK3 EQ 7) HSG3MPB = HZRKWT3
IF      (HZRK3 EQ 8) HSG36P = HZRKWT3
IF      (HZRK3 EQ 9) HSG3AP = HZRKWT3
IF      (HZRK3 EQ 10) HSG35APA = HZRKWT3
IF      (HZRK3 EQ 11) HSG33PC = HZRKWT3
IF      (HZRK3 EQ 12) HSG35APB = HZRKWT3
IF      (HZRK4 EQ 1) HSG44PA = HZRKWT4
IF      (HZRK4 EQ 2) HSG43PA = HZRKWT4
IF      (HZRK4 EQ 3) HSG42P = HZRKWT4
IF      (HZRK4 EQ 4) HSG4MPA = HZRKWT4
IF      (HZRK4 EQ 5) HSG43PB = HZRKWT4
IF      (HZRK4 EQ 6) HSG44PB = HZRKWT4
IF      (HZRK4 EQ 7) HSG4MPB = HZRKWT4
IF      (HZRK4 EQ 8) HSG46P = HZRKWT4
IF      (HZRK4 EQ 9) HSG4AP = HZRKWT4
IF      (HZRK4 EQ 10) HSG45APA = HZRKWT4
IF      (HZRK4 EQ 11) HSG43PC = HZRKWT4
IF      (HZRK4 EQ 12) HSG45APB = HZRKWT4
RECODE ALL(MISSING = 0)
COMPUTE STAGE2 = NSG12P + NSG22P + NSG32P + NSG42P +
        HSG12P + HSG22P + HSG32P + HSG42P
COMPUTE STAGE3 = NSG13PA + NSG13PB + NSG13PC +
        NSG23PA + NSG23PB + NSG23PC +
        NSG33PA + NSG33PB + NSG33PC +
        NSG43PA + NSG43PB + NSG43PC +
        PSG13PA + PSG13PB + PSG13PC +
        PSG23PA + PSG23PB + PSG23PC +
        PSG33PA + PSG33PB + PSG33PC +
        PSG43PA + PSG43PB + PSG33PC +
        HSG13PA + HSG13PB + HSG13PC +
        HSG23PA + HSG23PB + HSG23PC +
        HSG33PA + HSG33PB + HSG33PC +
        HSG43PA + HSG43PB + HSG33PC
COMPUTESTAGE4 = NSG14PA + NSG14PB + NSG14PC +
        NSG14PD + NSG24PA + NSG24PB + NSG24PC + NSG24PD +
        NSG34PA + NSG34PB + NSG34PC + NSG34PD +
        NSG44PA + NSG44PB + NSG44PC + NSG44PD +
        PSG14PA + PSG14PB + PSG14PC + PSG14PD +
        PSG24PA + PSG24PB + PSG24PC + PSG24PD +
        PSG34PA + PSG34PB + PSG34PC + PSG34PD +
        PSG44PA + PSG44PB + PSG44PC + PSG44PD +
        HSG14PA + HSG14PB + HSG24PA + HSG24PB +
        HSG34PA + HSG34PB + HSG44PA + HSG44PB
COMPUTESTAGE5A = NSG15APA + NSG15APB + NSG25APA + NSG
        25APB + NSG35APA + NSG35APB + NSG45APA + NSG45APB +
        PSG15APA + PSG15APB + PSG25APA + PSG25APB +
        PSG35APA + PSG35APB + PSG45APA + PSG45APB +
        HSG15APA + HSG15APB + HSG25APA + HSG25APB +
        HSG35APA + HSG35APB + HSG45APA + HSG45APB
COMPUTESTAGE5B = NSG15BP + NSG25BP + NSG35BP + NSG45BP
COMPUTE STAGE6 = PSG16P + PSG26P + PSG36P + PSG46P +
        HSG16P + HSG26P + HSG36P + HSG46P
COMPUTE STAGEA = PSG1AP + PSG2AP + PSG3AP + PSG4AP +
        HSG1AP + HSG2AP + HSG3AP + HSG4AP
COMPUTESTAGEM = NSG1MP + NSG2MP + NSG3MP + NSG4MP +
        PSG1MP + PSG2MP + PSG3MP + PSG4MP +
        HSG1MPA + HSG1MPB + HSG2MPA + HSG2MPB +
        HSG3MPA + HSG3MPB + HSG4MPA + HSG4MPB
COMPUTE STAGE2PC = STAGE2/.3
COMPUTE STAGE3PC = STAGE3/.3
COMPUTE STAGE4PC = STAGE4/.3
COMPUTE STAGEAPC = STAGEA/.3
COMPUTE STAGEMPC = STAGEM/.3
COMPUTE PRAW = STAGE5A + STAGE5B + STAGE6
COMPUTE PPERCENT = PRAW/.3
VAR LABELS NWDECSN 'NEWSPAPER DECISION'
        NWRK1 'MOST IMPORTANT (NEWS)'
        NWRK2 'SECOND MOST IMPORTANT (NEWS)'
        NWRK3 'THIRD MOST IMPORTANT (NEWS)'
        NWRK4 'FOURTH MOST IMPORTANT (NEWS)'
        PRDECSN 'PRISONER DECISON'
        PRRK1 'MOST IMPORTANT (PRISONER)'
        PRRK2 'SECOND MOST IMPORTANT (PRISONER)'
        PRRK3 'THIRD MOST IMPORTANT (PRISONER)'
        PRRK4 'FOURTH MOST IMPORTANT (PRISONER)'
        HZDECSN 'HEINZ DECISION'
        HZRK1 'MOST IMPORTANT (HEINZ)'
        HZRK2 'SECOND MOST IMPORTANT (HEINZ)'
        HZRK3 'THIRD MOST IMPORTANT (HEINZ)'
        HZRK4 'FOURTH MOST IMPORTANT (HEINZ)'
        STAGE2 'STAGE 2 RAW SCORE'
        STAGE3 'STAGE 3 RAW SCORE'
        STAGE4 'STAGE 4 RAW SCORE'
        STAGE5A 'STAGE 5A RAW SCORE'
        STAGE5B 'STAGE 5B RAW SCORE'
        STAGE6 'STAGE 6 RAW SCORE'
        STAGEA 'STAGE A RAW SCORE'
        STAGEM 'STAGE M RAW SCORE'
        STAGE2PC 'STAGE 2 PERCENT SCORE'
        STAGE3PC 'STAGE 3 PERCENT SCORE'
        STAGE4PC 'STAGE 4 PERCENT SCORE'
```

```
        STAGEAPC 'STAGE A PERCENT SCORE'
        STAGEMPC 'STAGE M PERCENT SCORE'
        PRAW 'PRINCIPLED THINKING RAW SCORE'
        PPERCENT 'PRINCIPLED THINKING PERCENT SCORE'
VALUE LABELS NWDECSN 1 'SHOULD STOP' 2 'UNDECIDED'
        3 'SHOULD NOT STOP'/
        PRDECSN 1 'SHOULD REPORT HIM' 2 'UNDECIDED'
         x 3 'SHOULDNT REPORT HIM'/
        HZDECSN 1 'SHOULD STEAL IT' 2 'UNDECIDED'
         3 'SHOULD NOT STEAL IT'/
        NW01RT4 TO NW12RT3 PR01RT3 TO PR12RT5A HZ01RT4
        TO HZ12RT5A 1 'GREAT IMPORTANCE' 2 'MUCH
        IMPORTANCE' 3 'SOME IMPORTANCE' 4 'LITTLE
        IMPORTANCE' 5 'NO IMPORTANCE'/
        NWRK1 TO NWRK4 1 'STAGE 4' 2 'STAGE 4' 3 'STAGE 2'
         4 'STAGE 4' 5 'STAGE M' 6 'STAGE 5A' 7 'STAGE 3'
         8 'STAGE 3' 9 'STAGE 5B' 10 'STAGE 5A'
         11 'STAGE 4' 12 'STAGE 3'/
        PRRK1 TO PRRK4 1 'STAGE 3' 2 'STAGE 4' 3 'STAGE A'
         4 'STAGE 4' 5 'STAGE 6' 6 'STAGE M' 7 'STAGE 3'
         8 'STAGE 4' 9 'STAGE 3' 10 'STAGE 4' 11 'STAGE 5A'
         12 'STAGE 5A'/
        HZRK1 TO HZRK2 1 'STAGE 4' 2 'STAGE 3' 3 'STAGE 2'
         4 'STAGE M' 5 'STAGE 3' 6 'STAGE 4' 7 'STAGE M'
         8 'STAGE 6' 9 'STAGE A' 10 'STAGE 5A' 11 'STAGE 3'
         12 'STAGE 5A'/
BEGIN DATA

.
END DATA
FILE LABEL VALUES STUDY DATA
SAVE OUTFILE = VALUDATA§
```

Messages from CUSSnet

CUSSnet is CUSSN's electronic network component. Below are a few of the most important CUSSnet messages. Note that messages for electronic networking are not "polished" as is traditional printed material.

From: Marko Mazeland **To:** All
Msg #201, 09-Dec-89 18:09:56
Subject: ***ENITH - European Network on IT in Human Services***

I'm glad to announce the creation of ENITH, the European Network on Information Technology in Human Services. At the end of 1990, an official start will be made during the first congress of ENITH. An interim executive committee will prepare this plenary session of this new organization. Brian Glastonbury (UK) is chairing this committee; the Dutch CREON foundation (Hein de Graaf) will act as secretariat. Dutch government will encourage other European governments to participate in funding the initial costs. Official announcement

Resolution of the members of the ENITH expert meeting at Maastricht, the Netherlands, December 9, 1989

Be it resolved that at this expert meeting held at the invitation of the Government of the Netherlands and in collaboration with members from seventeen European countries that we, these members, are joined in strong support of the newly formed ENITH organization. ENITH (European Network on Information Technology in Human Services) is dedicated to the humane and effective use of information technology in the human and social services. It is committed to promoting the exchange of ideas, projects, information and networking in an effort to maximize European resources and to emphasize the human issues and considerations in developing and applying this technology.

It is the intent of ENITH to facilitate the development of Information Technology within each country, respecting national differences and needs and to network and share information and developments at an international level.

We conclude by emphasizing the need to continue the thrust towards larger Europe and co-operation at many levels today and we recognize this need within the critical area of information technology.

We offer our individual commitment to ENITH to work towards realizing the objectives and aims of this ENITH initiative in high technology within each of our countries and to further development of ENITH as an organization.

[Signed by 29 persons from Spain, FRG, Finland, Italy, France, Denmark, UK, Sweden, Greece, Belgium, Netherlands, Switzerland, USA, Canada and Israel]

* Origin: Datawerken IT,197Dutch CUSSN—Netherlands (2:283/200)

From: Richard Maturo **To:** Public
Msg #133, 29-Jun-89 15:41:00
Subject: ***PIE Online - Policy Information Exchange***

A new bbs has been founded in Washington D.C. called the Policy Information Exchange (PIE). PIE is directed specifically at mental health professionals. Our system is currently tracking legislation, generating reports and statistics in a variety of areas including; Community Support, AIDS, Protection & Advocacy, Long Term Care, and funding mechanisms. Our board is free of charge and open to all. Also included on our system is the ABA Mental and Physical Disability Law Reporter electronic version, allowing searches of more than 5 years of disability law case summaries and citations. This database is subscription based. Pie Online is sponsored by the Mental Health Policy Resource Center, 1100 17th St., N.W., Suite 901, Washington, D.C. 20036 (202) 775- 8826. Feel free to dial in to our system (8/1/N/2400/VT100) 24 hours/day, 7 days/week at (202) 872-9141. Login as "public". If you would like a permanent account on our system give us a call or send mail to "Admin".

* Origin: P2B2S (Public Psychiatry BBS) 303-329-3337 (1:104/51)

From: Calvin Barrett **To:** Jerry Finn
Msg #208, 17-Jan-90 20:49:02
Subject: ***Your I&R request***

We wrote a data/base-I&R program for a local volunteer center which is both service and client based re: energy services. What it does is query the user based on needs. That is, if a caller has "no heat" as a problem, the systems queries for eligibility criteria and then suggests services and agencies providing the service. The user can then enter client centered data which is attached to the "I&R event". Reports generate case histories, activity, referral categories and so on. We have a similar program written in Clipper/dBase. Oh, the SYS/36 software is RPG—clumsy but what our SYS/36 sysop is good at. The Clipper stuff is written by another person. I did the conceptual model end. I wonder though, why you are using the SYS/36 as the primary system. As you know, SYS/36 has good PC interface. Are you concerned about speed? I imagine you are looking for something a bit more elaborate than what we have developed, but at least you know someone has been down the same path. I guess the problem with the SYS/36 is that it was a development of the SYS/34 (we had a SYS/34) and these minis were typically used by for-profits as accounting machines. The SYS/3x series also seemed to find its way into various United Ways as well to support fundraising. But the result was system and applications software not tailored for social or human service operations. You can contact me at: Calvin Barrett, New Street Consultants, P.E.A.C.E., Inc., 100 New Street, Syracuse, NY 13202.

Member Activities

Digitized standard man from Logic Magazine, Spring/Summer 1989, pp. 12-15, from Control Data, HQSO3T, POB 0, Minneapolis, MN 55440-4700.

Researchers at the U. of Illinois at Chicago are furthering the science of anatomy with Project da Vinci, whose goal is to recreate a statistically precise standard man. When completed, the model will allow on screen, 3-dimensional, real time experimentation. Presently, millimeter-thick slices of a body are scanned with a video camera that converts the image into light and dark picture cells, or pixels, which are then fed into a computer. The standard man will occupy about 2.2 billion characters or 2.2 gigabytes of storage. One benefit of the research to date has been to update pictures of missing children based on models of medical and anthropological data on how faces age. Of the approximately 80 children drawn in the past three years, 25 have been recovered—17 directly or indirectly because of their drawings.

New organization formed from Rob McFadden, Faculty of Social Work, U. of Toronto, 246 Bloor St. West, Toronto, M5S 1A1

The Association for the Advancement of Computer Technology in Human Services (AACTHS) has been formed and an electronic conference established. Contact Rob for details.

Automated Needs Assessment from Mary Ann Mendall, Case Management Consultant, 815 Lewiston Dr., San Jose, CA 95136 (408) 978-1386.

The Texas Department of Mental Health and Mental Retardation Case Management Unit in conjunction with Information Services is developing a computerized needs assessment tool utilizing expert system technology. The tool helps an intake worker to identify a client's needs and support network and to determine the most appropriate intervention.

Work has focused on developing the Knowledge Base and on designing a prototype on Texas Instrument's Personal Consultant expert system shell. A second prototype is planned for the Spring of 1990. TDMHMR would welcome information about other computerized needs assessments and/or expert systems.

Research about computer utilization from Elizabeth Mutschler, U. of Michigan, 1065 Frieze Bldg., Ann Arbor, MI 48109.

At a conference on research utilization in May, 1989, (sponsored by Boysville of Michigan and Wayne State University) several papers dealt with computer utilization and the need for related research.

David Fanshel (Columbia U. School of Social Work) presented "Strategies for the Analyses of Data Based in Social Service Systems." Fanshel points out that many management information systems suffer from the "data base syndrome." As data bases get larger, as more staff members are required to fill out ever more forms, no one is analyzing or interpreting the information already collected. Fanshel presented recommendations, how to use a range of analyses to extract operationally meaningful measures of system performance in human service agencies.

Terry Mizrahi (Hunter College School of Social Work) presented "Research Utilization in Community Development." Mizrahi described the potential of national databases about resources, coordination of fundraising and lobbying efforts, and gave examples of useful databases developed by grass roots and feminist groups.

Elizabeth Mutschler (U. of Michigan School of Social Work) presented "Computers in Agency Settings." Mutschler used a model of technology diffusion to address issues related to the implementation of information technology in human services. Such issues included the appropriate match of tasks and information technology, demonstrated effectiveness of agency-based training for users of technology, and the need to examine how information technology affects the organizational structure, users and practice procedures in human services.

John Schuerman (U. of Chicago School of Social Service Administration) presented "Expert Systems and Ordinary Research as Sources for Practice Guidance" Schuerman described his work on developing an expert consulting system for child welfare decision making. He is currently working with the Illinois Department of Children and Family Services and the Juvenile Protective Association to develop a computer program that can be used by relatively untrained and inexperienced child protective workers who must investigate allegations of abuse and neglect and recommend action. Schuerman gave examples of how expert systems and classical research can provide guidance for practice activities.

These conference papers will be published by Boysville of Michigan and Wayne State U. They are available through Dr. Tony Grasso, Research Institute Director, Boysville of Michigan, 8744 Clinton-Macon Rd., Clinton, MI 49236.

Computers for Quality Care Decisions from Mike King, Director of Social Work, St. Francis Hospital, 100 Port Washington Blvd., Roslyn, NY 11576, or call (516) 562)6044.

Computers are extensively used for keeping track of statistics (budgets, patient contacts, staff deployment, productivity...), for maintaining information in a database file (patient information, community resources...) and for facilitating word processing (manuals, memos, reports...).

However computers are less often used to enable a clinician or manager to make quality care decisions. What can we do to make the service better: can we make it more effective; can we provide the service in a different way; should we make changes in the program; can we get good results sooner?

Data maintained on a computer and then generated into reports can provide some basis for this review of quality. For instance, at one hospital the established clinical perspective was that extending a child's stay in a rehabilitation service beyond the usual three months would make available more

social work counseling and thus better help the child resolve emotional difficulties related to their disability. The data showed otherwise! Reports on the number and extent of acting out incidents on the unit showed that this occurred much more frequently for children whose stay was extended beyond the normal 3 month period. The children's tolerance for being in the unit tended to deteriorate after that period and they were less amenable to rehabilitation and counseling. Thus, keeping to the standard rehabilitation length of stay was determined to be the more helpful mode.

I am interested in compiling and disseminating information about other such uses of the computer data for decisions on improving the quality of the care being provided. One aspect is the creative use of existing reports (such as in the example above) and another is developing reports specifically for that purpose. Please send any examples you have of this.

Prototype Electronic Library from Kimberly Ginther-Webster, Carnegie-Mellon U., (414) 268-6107 or KG18@ANDREW.CMU.EDU

Carnegie-Mellon and the On-Line Computer Library Center have undertaken a project called Mercury to study the nature of electronic information and create a prototype electronic library. The project is designed to do the research and development necessary to take advantage of advances in display technology, information retrieval, storage systems, and networking which will make possible the delivery of electronic text and graphics easily, independent of physical location.

Matching Experts with Nonprofits from CompuMentor Project, 39 Whitney, San Francisco, CA 94131 (415) 282-4648.

CompuMentor matches computer experts to nonprofit. Experts provide advice on hardware selection, system development, software design, etc. Starter kits to establish a CompuMentor project in your community are available.

Brain Response Interface (BRI) from Dr. Pevehouse, Smith Kettlewell Eye Research Institute, San Francisco, CA (415) 921-0438.

BRI allows the users connected via three electrodes on the back of the head to communicate with a computer by gazing at a one of 64 squares (8 X 8 matrix) on the computer screen. The electrodes determine at what square the user is looking and sends the character/letter/word in that square to the computer. It is being refined for patients with cerebral palsy, ALS and other motor limiting disabilities.

Appleworks User from Bob Kohl, Lakeside Shelter, 4455 NE Highway 20, Corvallis OR 97330

We're power users of Appleworks in our office on a IIgs and a IIe in our common area for client use.

Publications available from Chris Piotrowski, Psychology Dept., University of West Florida, Pensacola FL 32514 (904) 433-2930.

Chris is offering reprints of two recently published articles. One is a 1989 survey of online database which are searched by academic libraries. The second is a Fall 88 survey of CD ROM discs available in college and university libraries.

Communications and Computers—Ireland M. Maguire, Director, PATCH (People Active Through Community Help) 20 Mark St., Dublin 2, Ireland ph 711047 & 711687.

We are a voluntary agency based in Ireland. One of our current roles is to help encourage the development of communications and computer technology in the voluntary and community areas. We are currently developing a range of strategies, and as a result, wish to broaden our range of contacts, and learn from the experience of others. Our main activity, at this time, is the development of an online communications and information service.

Network on Poverty, Housing & Hunger from Larry Yates, Director, National Anti-Displacement Project, Low Income Housing Information Service, 1012 14th St NW, Suite 1006, Washington DC 20005 (202) 662-1530.

I am the facilitator of a folder on Handsnet, an emerging national telecommunications network on the Connect system dealing with poverty, housing and hunger issues, currently at about 350 members. The network is about half and half Mac users and DOS users.

Technology for children with severe handicaps American Speech-language Hearing Assn. (ASHA). 10801 Rockville Pike, Rockville, MD 20852 (301) 897-5700.

The U.S. Department of Education has funded the Technology in the Classroom Project of ASHA. The Project will develop three self- instructional videotape and print modules which offer strategies for using assistive technologies in the educational programs of 2-7 y/o children with severe handicaps. The modules will address the areas of curriculum, communication, and mobility.

Computerized Books for the Blind

CBFB, 33 Corbin Hall, U. of Montana, Missoula, MT 59812 (406) 243-5481.

CBFB is a nonprofit devoted to providing written information in computer-accessible format to persons with vision impairments.

AMIA is formed from the American Medical Informatics Assn. Suite 700, 1101 Connecticut Ave. NW, Washington DC 20036.

AMIA was formed from the American Association for Medical Systems and Informatics (AAMSI), the Symposium on Computer Applications in Medical Care (SCAMC), and the American College of Medical Informatics. It contains a special interest group on Mental Health Systems.

Homeless Applications from Timothy Peck, Office Manager, Task Force for the Homeless, 363 Georgia Ave. SE, Atlanta GA 30312 (404) 589-9495 (FAX 589-8251).

We are currently using Apple Macintosh hardware and software to automate a wide variety of tasks in our office. Our operations have benefited enormously from the use of computers and we may have advice to offer. Also, I would be interested in knowing what others are doing in this regard. We use the BBS HandsNet.

Resources

Electronic Information Resources

National Information about technology for persons with disabilities is a program initiative by PSI—TECH, a consortium of aerospace industries and the Center for Developmental Disabilities in South Carolina and the Cerebral Palsy Research Foundation of Kansas, Inc. Call 1-800-922-9234 Ext. 301.

IBM National Support Center for Person with Disabilities helps health care leaders, agency directors, policy makers employers, educators, public officials and individuals learn how technology can improve the quality of life for the disabled person in the school, home and work place. The Center responds to requests for information on how computers can help people with vision problems, hearing problems, speech impairments, learning disabilities, mental retardation and mobility problems. Contact the Center at POB 2150, Atlanta GA 30055 (1-800-426-2133 voice/TDD).

Newsletters, Magazines & Journals

MicroSoftware News for Local Governments is published by the International City Management Association, 1120 G. St., NW, Washington, DC 20005 (202) 626-4600. ICMA also publishes an annual catalog of micro and minicomputer software designed specifically for local government use. The catalog is called the **Software Reference Guide.** The 1989 issues contains 371 pages.

OSERS News in Print is a technology oriented newsletter from the U.S. Dept. of Education, Office of Special Education and Rehabilitative Services, Room 3132 Switzer Bldg, 330 C St., SW, Washington DC 20202-2524.

The Computing Teacher and the Journal of Research on Computing in Education are publications of the International Society for Technology in Education (ISTE). ISTE resulted from a merger of the International Council for Computers in Education (ICCE) and the International Association for Computing in Education (IACE). Contact U. of Oregon, 1787 Agate St, Eugene OR 97403 (503) 686-4414 for details.

MicroPsych Network, a newsletter for psychologists, has changed its address to Lynn Veach Sadler, Managing Editor, 5400 Ramsey St. Fayetteville, NC 28311-1499 (919-488-7110 ex 225). It is published 6 times a year for $20 (individuals) and $30 (institutions).

Knowledge Based Systems, is an international quarterly journal from Butterworths Scientific, Ltd., Westbury House, Bury Street, Guildord, Surrey, GU2 5BH, UK.

Information and Software Technology is an international quarterly journal from Butterworths Scientific, Ltd., Westbury House, Bury Street, Guildord, Surrey, GU2 5BH, UK.

InfoTEXT—The Newsletter of Computers for Planning is a publication of the Information Technology Division of the American Planning Association. It covers commercially available and shareware software. For details, write the Center for Urban Studies, U. of Akron, Akron, OH 44325-7903.

TRANET is a bi-monthly (16pp—very small print) newsletter on appropriate/alternative technology. It is primarily a listing of worldwide resources and events on social and personal transformation. TRANET contains many good ideas and resources that you will never see elsewhere. $30 for individuals, $50 institutions from Box 567, Rangeley, ME 04970 (207) 864-2252.

the **Technology Connection** is a yearly newsletter on technology and devices for consumer and professional applications in rehabilitation and employment. Free from the Research and Training Center, Stout Vocational Rehabilitation Institute, School of Education and Human Services, University of Wisconsin- Stout, Menomonie, WI 54751 (715) 232-1380.

Books and Reports

Computer Access in Higher Education for Students with Disabilities is a free book designed to increase the accessibility of computers to persons with disabilities. Write High Tech Center for the Disabled, California Community College Chancellor's Office, 1109 Ninth St., Sacramento, CA 95814 (817) 322-4636.

Advances in Social Science and Computers by David Garson and Stuart Nagel (eds), Vol 1, 1989, JAI Press, Greenwich CT & London. Contains articles in 6 sections (1) Introductory overviews, (2) Artificial Intelligence and Expert Systems, (3) Microcomputers to Aid in Decision Making, (4) Microcomputers and Statistical Analysis, (5) Modeling and Simulation, and (6) the Social Impact of Computers. Not for the inexperienced user.

The Computer Training Handbook: How to teach people to use computers 1989, from the National Training & Computer Project, Sagamore Rd., Raquette Lake, NY 13436.

Assistive Technology Sourcebook is a comprehensive guide to assistive technology information and resources. The October 89 version for $60 is available

from RESNA Press, Suite 700, 1101 Connecticut Ave NW, Washington DC 20036 (202) 857-1199.

INNOTEK Software Resource Guide is a guide for selecting software for children with special mental, physical, sensory, behavioral, and learning disabilities (gifted children included). $20 from the National Lekotek Center, 2100 Ridge Ave, Evanston IL 60204 (312) 328-0001.

Tech Use Guides contain advice and methods for using technology with individuals with disabilities. Free from the Center for Special Education Technology, Council for Exceptional Children, 1920 Association Dr., Reston, VA 22091 (800) 873-8255.

Rehabilitation Technology Resource Guide is a manual for rehabilitation professionals and consumers from Region IX Regional Information Exchange, 42pp. It comes in a 3 ring binder and is updated annually. $12 from Beverly Reading Human Interaction Research Institute, 1849 Sawtelle Blvd., Suite 102, Los Angeles, CA 90025 (714) 338-4156.

Software Announcements/Catalogs

MegaPSYCH is an integrated medical record and accounts receivable system designed for psychiatric hospitals, residential treatment centers, drug and alcohol treatment centers, community mental health centers, day treatment centers and mental health clinics. Contact HealthWare, Inc. 12012 Boyette Road, Riverview FL 33569 (813) 677-4099.

Computer Assisted Social Services (CASS) system, features automated casenotes; automated and fully relational structured forms, social histories, research and clinical questionnaires; automated and relational clinical interview schedules; automated billing system; unidimensional and multidimensional assessment scales; mental status testing; graphics display of single case designs; and complete program evaluation features at the client, worker, unit, section, office or organization level. An abbreviated Student Version which can be distributed, without fee, to faculty and students is available for $50. $395 from WALMYR Publishing Co., PO Box 24779, Tempe, AZ 85285-4779.

Structured Pediatric Psychosocial Interview is administered using a paper/pencil format. Raw subscales scores are processed by computer to calculate normative scaling and to produce a narrative report. $320 from Fourier, POB 80125, Akron OH 44308 (615) 664-3552.

HandiWARE is a family of alternative computer access products. Contact Microsystems Software, Inc., 600 Worcester Rd., Framington MA 01701.

LION—EAP Data Management System is a management information system for employee or member assistance programs. Contact the Workplace Center, 622 West 113th St., New York, NY (212) 854-5173.

Qualifacts Systems help manage data and provide appropriate information to professionals for quality assurance and utilization review for children and adolescent residential care settings. It is based on the principles of Process Therapy. The system contains a client database, daily status information for clinical review, a program to match diagnosis with level of care, a treatment review program, and assessment, treatment and treatment planning programs. Contact Qualifacts, 9180 Oakhurst Rd, Seminole FL 34646 (812) 593-0003.

Your Baby's Nutrition: From Infant to Toddler is a computer disk and parent guide for recording your baby's information as well as sections in infant nutrition and feeding. It also will analyze a baby's food intake as percentages of the US Recommended Daily Allowances. IBM-PC, $15 from Gerber Products, Dept. CC, 445 State St, Fremont MI 49412 (616) 923-2000.

Independent Living Assessment is an instrument which assesses the readiness of youth for independence based on observable behaviors and ratings of the youth and those in the youth's day- to-day living situations. Weaknesses needing attention are provided along with ratings in 4 areas: consistency of acceptable day-to-day behaviors awareness of adult role rights and responsibilities, preparation in basic daily living skills, and level of positive attitudes toward self. Contact OUTPST, 119 Wilson, Park Forest IL (312) 748-3854.

Center for Microcomputers in Transportation is a distributor and user support center established by the Federal Highway Administration. For their annual software catalog, write McTrans, U. of Florida, 512 Weil Hall, Gainesville, FL 32611-9988 (904) 392-0378.

V.I. Commander is a voice recognition product not much larger than a pocket wallet that recognizes 320 words spoken by anyone. It interfaces with a PC via infra-red transmitter or serial port. It allows environmental control and computer access to anyone confined to a wheelchair or bed.

Fund Advantage features Fund Accounting, Payroll, and Accounts Payable programs tailored to support nonprofits with up to 99 funding sources. $3895 from Automation Resources, 2011 Plainfield Ave NE, Grand Rapids MI 49505 (616) 364-7800.

National Economic Commission Deficit Reduction Game is a Lotus 1-2-3 based game where a line graph shows you how your federal budget changes fare compared to the Congressional Budget Office reduc-

tion guidelines. $10 from A. Stigile, OMB, Washington DC 20530 (202) 395-4574.

Decisionbase diagnoses DSM-III-R disorders, generates medical reports, generates a diagnosis or history, graphs the patient's progress, and contains a DSM-II-R. Contact Decisionbase, Suite 8110-420, 264 H Street, Blaine, WA 98230 (604) 876-2254.

ART (Access Rehab Technology) allows users to rapidly identify over 1000 assistive devices. It provides product information, price, manufacturer's name, address, telephone number, and other information on how a product is used or how it works. Contact Dayspring Associates, Inc., 2111 Foley Rd, Havre De Grace, MD 21078 (301) 939-5900.

Personal Lawyer Lifestyles creates prenuptial, postnuptial and living together agreements from answers to user questions. TigerSoftware, call for catalog (800-888-4437).

Serial Recall: Assessment is the first of 4 software products in the Michigan Memory Series. It is a norm-referenced test of linguistic and non-linguistic sequential recall in children and adults who have suffered strokes, head injuries or learning disabilities. Contact U. of Michigan Software, Intellectual Properties Office, 475 E. Jefferson Rm 2354, Ann Arbor MI 48109-1248. (313) 936-0435.

MHS 1989-90 Catalog contains a large variety of testing, diagnostic, counseling and statistical and software. Contact Multi Health Systems, Inc., at 908 Niagara falls Blvd, North Tonowanda NY 14120-2060 (800) 666-7007.

BENCHMARKS provides information on admissions, length of stay, occupancy, patient demographics, payment sources, type of chemical use, program quality and more. Contact Hazelden Research Services, 1400 Park Ave. S., Minneapolis, MN 55404-1597, 1-800-257-7800.

The Helping Connection & Bed-Trak are two new products. The Helping Connection automates part of the public education/marketing service for mental health facilities. Callers use their touch tone key pad to select recorded talks stored in digital form on an agency's hard disk. Bed-Trak automatically calls staff at hospitals or residential facilities and, in a recorded voice, asks them questions about the availability of beds. Respondents answer using the buttons on their touch tone phones. Clinicians call Bed-Trak and answer a set of questions about their bed requirements, e.g., gender, type, skill level using their touch tone phone. Bed-Trak then reads the caller the names, addresses, and phone numbers of the facilities that meet the caller's requirements. Contact MarcDavid Inc., 26 Trumbull St., New Haven, CT 06511 (203) 624-2422.

Staff Master is an MSDOS employee scheduling program which generates a complete staffing schedule given your staffing requirements. Contact COMSEC, 68 Kelly Rd., SO Windsor, CT 06074 (203) 644-1817.

RAVE (Realistic Assessment of Vocational Experiences) is a PC based vocational selection tool which finds realistic occupational alternatives for clients who are forced into career transition. It keeps the entire Dictionary of Occupational Titles in mind while looking for good alternatives. Contact The Vocational Resource, 2017 Cedar St., Berkeley CA 94709 (415) 644-2771.

CAMRIS (Comprehensive Automated Mental Retardation Information System) was developed Unisys, the Connecticut Dept. of Mental Retardation (DMR), and Touche Ross & Co. is an information system that enhances human life values by providing a means of tracking and controlling all DMR related services. Contact your local Unisys dealer for details.

Software for students with severe, multiple handicaps For a list of noncommercial software for students with severe, multiple handicaps (mostly Apple software), write R. Lewis, Professor, Special Education, College of Education, San Diego State U., San Diego CA 92182-0144.

I&R Key Information & referral and report writing software for the IBM AS/400, System 36, PS/2, or PC-AT. Runs under Active Software Inc. 4000 Olson Memorial Highway, Golden Valley, MN 55422 (612) 522-4243.

Client Management Package solves administrative problems encountered by community mental health programs as well as substance abuse and psychiatric treatment facilities. Modules include Client Information, Appointment Scheduling, Sliding Scale Billing, Accounts Receivable, and Insurance Claim Form printing. It runs under PC-DOS, OS/2, XENIX, and UNIX. Contact System Improvement Associates, 620 SW Fifth, Portland, OR 97204 (503) 227-6491.

The latest QUEUE catalog has several social science related simulations that run on the Apple II computer. They are **The Poverty Game** where students make decisions to reduce poverty. **Civil Rights 1964** where students take President Kennedy's role to win passage of the 1964 Civil Rights Act, and **Campaign** where students direct the activities of a major political party. From Queue, Inc., 338 Commerce Dr., Fairfield, CT 06430 (800 232-2224).

NPOPLAN is a lotus 1-2-3 template which accompanies Financial Management in Nonprofit Organizations. NPOPLAN includes an IBM-PC computer-assisted version of a long-range financial planning model and a sample input data set. Contact Business Publishing Division, College of Business Ad-

ministration, Georgia State U. University Plaza, Atlanta, GA 404-651-4253.

Hyper-Abledata is a desktop version of the ABLEDATA database of over 17000 rehabilitation assistive device products. Users can search by company, name, product name, type of product or Boolean searching. Runs under the Macintosh HyperCard although an IBM-PC version is under development. $50 compact disk version, $199 floppy disk version, $10 demo disks from Trace Research and Development Center, S-151 Waisman Center, U. of Wisconsin-Madison 1500 Highland Ave., Madison, WI 53705-2280 (608) 262-6966. A catalog of Trace resources is also available.

ZoomText is a RAM resident program which enlarges characters which appear on a computer screen. The magnification level can be set (2-8 times) and it works with most software. Contact AI Squared, Inc., 1463 Hearst Dr., Atlanta, GA (404) 233-7065.

Personnel Policy Expert asks key questions of a user on 55+ personnel policy subjects and then writes personnel policies based on user answers, law and personnel expertise. $495 from Knowledge Point, 1311 Clegg St., Petaluma, CA 94954. (1-800-727-1133).

Rule of Thumb # 10

Expect at least 3 errors in every 1000 lines of computer code

Source: McNeil-Lehrer Report, PBS, 21 Feb 90

Rule of Thumb # 11

Monitor users can only read about two-thirds as fast as they can from paper, and after an hour or so, their productivity drops way off.

Source: PC Week, 15 Jan 90, p 88

Rule of Thumb # 12

Use the 70% test. Ask yourself: Is there someone on my staff who can do this task at least 70% as well as I can? Yes? Then farm it out. Whether or not your subordinates are overworked should not weigh in your decision.

Source: Harvard Businees Review, Sep-Oct 89, p. 80

Upcoming Events

The Seventh International Conference on Technology and Education, March 20-22, 1990, Brussels, Belgium. Contact Mr. Jamie Alexander, Radio Shack, Education Division, 1600 One Tandy Center, Fort Worth, Texas 76102, USA (817) 390-3053, (817) 390- 2774 FAX.

Technology and Persons with Disabilities, March 21- 24, Los Angeles Airport Marriott. Contact H.J. Murphy, California State U., Northridge, Office of Disabled Student Services, 18111 Nordhoff St. – DVSS, Northridge, CA 91330 (818) 885-2869 ex. 2578.

Advanced Computing for the Social Sciences, (Sponsored by the Energy Division of the Oak Ridge National Laboratory and the United States Census Bureau), April 10-12, 1990, Williamsburg, Virginia. Contact Lloyd F. Arrowood, Oak Ridge National Laboratory, P. O. Box 2008, Oak Ridge, Tennessee 37831-6207 U.S.A. (615)-574-8700. LFA@ORNLSTC.BITNET or LFA@STC10.CTD.ORNL.GOV.

Rehabilitation & Special Education in the Year 2001: 5th Pan American Conference on Rehabilitation & Special Education, April 19-21, 1990, South Padre Island, Texas. Contact Dr. Julian Castillo, Director, Division of Health Related Professions, Pan American University, 1201 W. University Drive, Edinburg, Texas 78539.

Unlocking the Environment Through Assistive Technology, April 26-28, Northglenn, CO. Contact Rocky Mountain Resource and Training Institute, 3805 Marshall St., Suite 202, Wheat Ridge, CO 80033 (303) 420-2942.

National Symposium on Information Technology, April 29-May 2, 1990, Myrtle Beach, SC. The focus will be on I&R, Case Management/client tracking, and innovative applications. Contact Center for Developmental Disabilities, Dept. of Pediatrics, U. of South Carolina School of Medicine, Benson Bldg 1st floor, Columbia, SC 29208.

2nd National Video-Teleconference Series on Communication Aids and Devices, May 10, 1990. Contact C. Blaschke, Education Turnkey Systems, Inc., 256 N Washington St, Falls Church VA 22046 (703) 563-2310.

Capitalizing on Technology for People with Disabilities, RESNA, 13th Annual Conference: Theme, June 15-20, 1990, Washington, D.C. Contact Susan P. Leone, RESNA, 1101 Connecticut Ave. NW, Suite 700, Washington, D.C. 20036: Tel: (202) 857-1199, FAX (202) 775-2625.

AMIA (American Medical Informatics Assn.), First Annual Education and Research Conference, June 20-23, Snowbird, Utah. Contact AMIA, Suite 700, 1101 Connecticut Ave NW, Washington DC 20036.

National Educational Computing Conference, June 25-27, 1990, Opryland Hotel, Nashville, TN. Contact U. of Oregon, 1787 Agate St, Eugene OR 97403 (503) 686-4414.

30th Annual Conference of the National Association for Welfare Research and Statistics, July 8-11, 1990, Bellevue, Washington. Contact S. Sanyang, Research & Analysis, S. Carolina Dept of Social Services, POB 1520, Columbia, SC 29202-1520, (803) 734-5821.

5th World Conference on Computers in Education (WCCE/90), organized by the International Federation for Information Processing (IFIP), July 9-13, 1990, Sydney, Australia. Contact WCCE/90 POB 319, Darlinghurst, NSW, Australia 2010 (FAX +612-281-1208).

4th International ISSAC Conference, (The International Society for Augmentative and Alternative Communication), August 12-16, 1990, Stockholm, Sweden. Contact The Institute for Integration, Norrmalmstorg 1, 114 46 Stockholm, Sweden, Phone: 46 8 112006.

14th Annual Symposium on Computer Applications in Medical Care (SCAMC), November 4-7, Washington DC. Contact AMIA, Suite 700, 1101 Connecticut Ave NW, Washington DC 20036.

European Conference on the Advancement of Rehabilitation Technology November 5-8, 1990, Maastricht, The Netherlands. Contact ECART, Congress Organization Service, Van Namen & Westerlaken, B.P. 1558, 6501 BN Nimegue, The Netherlands.

HUSITA-2 HUman Service Information Technology Association 2nd Conference June 27-30, 1991, Rutgers University. See advertisement in this issue.

Rule of Thumb # 13

At least 50% of a magazine should be graphics and white space.

Source: PC Publishing, Nov. 89, p 17.

Rule of Thumb # 14

If you develop a good usable software application, someone will always find a bug in it. Software with no bugs probably isn't used that much

Source: Bob E. Neilson, National Defense University

In 1980 there were 683,000 PCs in the U.S. In 1989, there were 52 million.

Source: PC Week, 1 Jan 90, p 89

It may take 300 years to clean up Silicon Valley sites where major microelectronic firms have contaminated soil and groundwater with toxic chemicals.

Source: Silicon Valley Toxics News, Winter 1989

I wish to join/renew membership in the **CUSS Network.** Send to:
Dick Schoech, CUSSN, UTA, Box 19129 Graduate School of Social Work, Arlington, TX 76019-0129.

- In Australia send to Andrew Rajcher, 1 Narong Road, North Caulfield, Victoria, Australia 3161.
- 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.

Name _____ Title/Occupation _____
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Dues: I enclose _____ for membership or renewal of membership (please pay only in U.S. Funds). Make checks payable to CUSS Network.

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NL 10/1

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CPS-3-90

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