HV

Computer Applications in Social Work and Allied Professions

VOLUME 3 NUMBER 2 AUTUMN 1986

Can Computers do Social Work?

Introducing Information Technology in Coventry

Four Expert System Shells put through their paces

Computers in Social Work Education - A Challenge to the Educators

SOUTHAMPTON UNIVERSITY
11 FEB 1988
LIBRARY

RESTRICTED
This Book may only be borrowed Overnight or Weekends

Contents

From the Editor..

We are now into the third volume of CASW's Journal. For two years there was an obvious DIY image to the publication, but for the third volume we have turned to professionals for layout and printing. There are certain to be errors until we all become accustomed to the new system, so let's begin with an apology for a mistake in Vol 3 No1. The **International Conference** *(HUSITA '87)* will take place in **September 1987**, not, as printed, 1986. This journal will keep readers in touch with plans for the conference, and in due course will include details about content, contributions and booking.

The issue contains two more papers given at the 1986 CASW Conference. Peter Marsh and his colleagues from Coventry Social Services Department have written up their entertaining account of the trials and tribulations of introducing information technology to social workers, and Fritz Gruendger has put into print his challenges to social work educators to integrate computer teaching into their curricula. To continue the theme of computing as part of social work training, we have an article by Victoria Weavers, now a social worker, but a student on a CQSW course when she wrote her piece. She says that she continues to wave the computer flag in the hope of getting some support.

CASW has itself undergone some reorganisation, mainly to make way for the vast amount of work involved in organising the International Conference. Up to the present Stuart Toole has run CASW, helped by an Editorial Board. For the next year Stuart will devote his attentions to the International Conference, in conjunction, at the American end, with Walter LaMendola. Bryan Glastonbury will edit the Journal, with Paul Dolan as Associate Editor, Colin Barnes as News and Book Review Editor, and Mike Ferriter as Software Review Editor.

Bryan Glastonbury

Computer Applications in Social Work & Allied Professions is published by CASW:

c/o Dept. of Sociology & Applied Social Studies,
City of Birmingham Polytechnic,
Perry Barr, Birmingham, B42 2SU
TEL: 021 356 6911. (ext. 303/301)

Editorial Address

Dept. of Social Work Studies,
The University of Southampton
SO9 5NH

TEL: 0703 559122. (ext. 3536/2576)

CASW Editorial Group

Managing Editor - Stuart Toole (City of Birmingham Polytechnic).
Editor - Bryan Glastonbury (University of Southampton)
Associate Editor - Paul Dolan (Birmingham Social Services Dept.)
News Editor - Colin Barnes (Coventry Social Services Dept.)
Review Editor - Mike Ferriter (Rampton Hospital)

Editorial Board
Walter LaMendola (University of Denver)
Norman Tutt (Lancaster University)
Ian McArdle (City of Birmingham Polytechnic)
David Phillips (University of Sheffield)

ISNN No. 0267 1980

Introducing Information Technology in Social Services Departments

Peter Marsh, Bill Ormerod and Jane Roberts

Introduction

A computer enthusiast is one of nature's paradoxes - a dangerous but endangered species

Let a computer enthusiast loose in an area which has been traditionally resistant to having anything imposed on it (such as a Social Services Department) and he will beaver away enthusiastically doing his own thing, without too much regard for reality; the worst possible combination in this respect is a social worker turned computer buff. Quite invisible to his blinkered eyes, forces will be mustering in the background. On the one hand, social services colleagues will be entrenching behind their traditional approaches and professional ethics; on the other, data processing professionals elsewhere in the Council, (who are convinced that they know what is best for "The User") will be mustering their conservative bureaucracy to ensure that any system accords with their own views of what is right and appropriate. The end product is at serious risk of being still-born or of subsequent rejection, as totally inappropriate to operational needs.

So given that, if record keeping and management information in the Social Services is not to follow the dinosaurs just yet, we have to find ways of bringing the power of information technology to bear on social work records, how should we approach the issue? What problems are there to be faced and where do we start? This paper, which summarises a workshop that we led at the CASW (1986) Conference in Birmingham, sets out to explore two fundamental areas for attention, and to suggest possible approaches, based on the experiences of Coventry City Council in this field.

Information Technology and Organisational Structures

There are many models of organisational structures and their dynamics, but one which we have found useful in helping us to understand the inter-relationship of information technology and social services departments is that proposed by Charles Handy in his book *"Understanding Organisations"* (Penguin, 1976). Handy considers different work situations as different cultures, ascribing to each a metaphorical symbol.

Trying to introduce change into any bureaucracy is an uphill struggle. Being in charge in a field like information technology is like walking on ice, when you are never quite sure what will happen next under your feet.

The Role Culture

In Handy's world, the local authority, the archetypal bureaucracy, is the Role Culture par excellence. The essential feature of a Role Culture is that the organisation is an amalgam not of individuals, but of roles. Each role is carefully defined by a description of the function it is expected to carry out, and the extent to which it may make decisions; beyond those parameters it must embark on carefully laid down procedures to report on up the organisation.

Picture a Greek Temple, Handy's symbol for the Role Culture - lofty pillars climbing parallel towards the sky, never touching until they meet in a broad lintel, a finial often sitting at the apex of the entire structure. There are three major characteristics to the structure which help us to understand some of the factors in our own local authority organisations, and the ways in which organisational implications must affect our introduction of information technology:

- The strength and stability of the entire structure rests in its pillars. They taper vertically, never infringing on their neighbours' space, until they meet in the lintel.

The Temple's pillars equate to the departments in the local authority, the sections within departments, and so on. Even in our days of corporate management, the formal intercourse between departments is essentially non-existent below the top echelons of management, where, at the lintel, Chief Officers Groups play at unbiased corporate responsibility. Within each department all the roles are well rounded and sit tidily together; the fit of each block and its level up the pillar relative to similar blocks in other pillars is carefully regulated.

- Because of the lack of formal connection between the pillars below the level of the lintel, the interaction and communication between the pillars at the lower levels is very strictly prescribed. Correspondence will often be unacceptable unless signed by (or at least in the name of) the Chief Officer, where lies all responsibility; formal

Introducing Information Technology..

memoranda of prescribed format are mandatory in most circumstances; Section Head will only talk to Section Head, Assistant Director to Assistant Director, and so on.

• The role culture can only function effectively in a stable environment; the Greek Temple is notoriously vulnerable to earthquakes. Do you remember the chaos that surrounded your last departmental reorganisation or the last change of political power?

The model can be applied to divisions within departments, and sections within divisions just as well as to an authority as a whole. Every element of the bureaucracy depends for its effectiveness on clearly defined roles and relationships in a stable environment.

The Organisational Characteristics Necessary For Introducing Information Technology

Consider in contrast the structure and atmosphere needed for introducing information technology, particularly in terms of the part of the organisation responsible for driving the operation. We would suggest that three characteristics are pre-requisite:

1. Balance and adaptability

Trying to introduce change into any bureaucracy is an uphill struggle. Being charged with the introduction of change in a field like information technology is like walking on ice, when you are never quite sure what will happen next under your feet; the surface stays in its own place, but your momentum imparts a slide from which you always land on your posterior (often clinging frantically to some expensive item of equipment); you find your feet proceeding uncomfortably rapidly in opposite directions; you concentrate so much on keeping your balance that you lose sight of everything else.

2. Speed

To balance and adaptability, you have to add speed of action and reaction. The information technology world has been moving now for several years at a speed which has left some of its own mainframe dinosaurs floundering, and the implications for introducing information technology to an unsuspecting organisation are immense. The organisation cannot grasp the speeds that have to be coped with, but can latch on only too readily to non-production of goods by an agreed time.

..the qualities we need in a unit charged with introducing information technology seems to be at a variance with those inherent in the the traditional local government role culture.

3. Sensitivity

Rapid adaptability to major changes in the environment is not enough; it is essential that the organisation is sensitive, both in the sense of being able to respond to fine tuning in approach, but also in the sense of understanding the position and reactions of the rest of the organisation. The lifeblood of information technology is its flow of information, and the slightest insensitivity to the feelings of those who form the source of that flow can negate the entire exercise.

So the qualities we need in a unit charged with introducing information technology seem to be at variance with those inherent in the traditional local government role culture.

The Task Culture

Is there a better organisational solution? There is certainly a model to which we can work in Handy's picture; but its introduction requires enlightened management and what is, for the local government world, a radical approach to work.

Think of a net, for this is the image proposed by Handy for the Task Culture. Rather than adopting stereotyped roles, closely defined by job descriptions, the participants in a task culture are all bound by one common aim - to complete an overall task, eg the design, development and implementation of an information technology project.

What are the major features of a net?

• The strength of a net is not in any vertical alignments; such alignments hardly exist, since the overall structure molds itself to whatever it has to encompass. Taking the individual strands in a net as representing individual members of the group, the strength of the organism lies in its knots, where the individuals involved inter-relate.

• In a net, importance at any point in time relates to the ability of a particular strand to deal with a particular pressure. So with the lack of any vertical dimension in the Task Culture, influence is not based on any form of hierarchy, but on the ability of an individual to carry out any given task at a particular point in time; in a sense, we are talking about a 'skillocracy'.

• A net exists to constrain given forces. In the same way, what gives the Task Culture its overall form and cohesion is the common purpose that binds all the individuals together to achieve the shared objectives. Once that objective is attained, the organisation is likely to

dissolve, and the individuals are free to regroup subsequently in different combinations to achieve a new goal.

The implication is that all members of the group must be prepared for any other member of the group to be in the driving seat at a particular point in time, depending on their personal ability to achieve discrete goals. Equally, all must be prepared to compensate for strengths, weaknesses and capacity in others, which will again vary with time. The time commitment inherent in this aspect of the culture is a major shock to the local government system.

So if what we have is a role culture, and what we need is something closer to a task culture, we have a problem that we must at least recognise.

Information technology and personnel management

Any change within an organisation requires attention to personnel policies, but we believe that it is particularly important where those changes involve the introduction of information technology. As we have argued above, the technology to process and maximise the benefit of information is of no use without its raw material, and in the world of the personal social services, the only source for that information is the staffing chain linking to the person at the sharp end, working in the field with clients. To obtain our raw information, therefore, we have to address several different considerations.

Fear

Change inevitably brings with it attendant fear of what is about to happen. Introducing information technology brings fear in at least three dimensions:

- the installation of new practices and equipment necessitate changes to routine. Existing staff will be very worried as to their ability to cope.

- Information technology is far more familiar at this point in time to the younger generation than to those of us who have been around for a little while. The animal instinct of fear when we perceive younger members of the herd challenging for supremacy is a very real and potent one.

- Information technology is perceived as inextricable from both 'Big Brother' monitoring the workers and 'Machine' taking over from 'Man'; the need to work is a fundamental precept of our society, and any threats to the prospect of continuing work inspire real fear. The current economic climate can only exacerbate that fear.

A major factor in fear is ignorance. To introduce information technology, we must accept the reality of the fears involved, rather than be dismissive of them, and seek to counter them with honest reassurance.

Relevance

"So what's it got to do with me?" - the standard retreat of the culture which discourages interest outside your own role. We have to accept that, in the past, an awful lot of early computer systems were very little to do with, or more specifically of very little use to, workers in the field, on whom they nonetheless relied for information. That barrier has to be overcome today, if we are to be successful, and that in turn means two things:

- We must make it very clear to individuals how information technology can help them directly, and therefore their clients, and we must ensure that it does just that,

- we must spell out to individual members of staff the importance of information technology for the organisation as a whole, the relevance of their role in the organisation, and the crucial nature of their contribution to the flows of information involved.

Involvement

If we are to maximise the benefits obtainable from information technology, we have no choice but than to ensure that everyone who will ultimately be involved in providing information to, or receiving information from the proposed system is involved from the earliest possible stage. Nobody knows the needs of operational staff better than they do themselves; it is the task of those of us working on system development to tease out those needs and work to satisfy them.

You must have staff commitment to make a success of the information technology system in an organisation like a social services department, and that means at a minimum, ensuring that fears are met head on, so that staff are fully involved, and appreciate what is going to happen and what is and is not possible.

Themes for a Possible Approach

We would not presume to suggest a universal solution. The situations you are likely to encounter are all unique to the individual organisations and personalities involved; in some respects you may find yourself with a head start, and in other respect with a crushing problem. But we believe that an understanding of the organisational and personnel implications indicates some general themes which we would all do well to observe, as a basis on which it is possible to build a successful development.

Introducing Information Technology..

Establish Responsibility

Be very clear where responsibility lies for the development. Insist that managerial responsibility and control is with the user department rather than with some central data processing function, and that time is given to a senior officer to manage the operation; we would suggest that you are playing at it rather than being serious if, for a major development, you do not have a full-time project manager well into the Principal Officer grades.

Organisation

Look very carefully at the way you organise the team responsible for system implementation; if you are fortunate enough to have the personalities who can work effectively in a task-centred way, whilst still interfacing when necessary with traditional structures, and the senior management is confident enough to relax traditional control enough to let them get on with it, then you have a head start. In personality terms, what you need at the head is someone who knows enough about computing to be 'Mr Computer' to the social services department, and enough about social work to be 'Mr Social Services' to the computing professionals, as well as being a pretty good salesman. It would not be sensible to have someone who is a committed professional, whether in social work or computing, because of the risk of bias.

Consultation

To be honest, we all pay a lot of lip-service to consultation, but do we put in enough to make it effective? We would argue that you just have to make it work when introducing information technology, if you are to secure the necessary levels of staff commitment. Our own model has centred on a Project Steering Group of some thirty members of staff meeting about every six weeks, from part-time clerical staff, through all levels of prefessional and administrative staff, to the Director in the Chair. That Steering Group has established some ten working groups for tasks ranging from defining specific areas of our information requirements, to assisting with prototyping development. To date, some 200 members of staff have been involved somehow in our own development, in working groups or individual interviews.

A major factor in fear is ignorance. To introduce information technology, we must accept the reality of the fears involved, rather than be dismissive of them and seek to counter them with honest reassurance

You do, however, have to be unashamedly open that there is a clear distinction between consultation and management, or you risk having the tail wagging the dog. Indeed, to some extent, you have to manage more ruthlessly to drive your project through such an extensive consultation process, but if you can do it and attain your targets with a large group of staff feeling involved and committed behind you, then you have a powerful weapon to hand.

Marketing

Somebody once said that there is no such thing as bad publicity, and provided you distinguish carefully between publicity and performance, we would go a long way to endorsing this view. The first priority is an identity and time spent finding one is well spent indeed; in our own case, SSCREIN (pronounced "screen") - Social Services Client Record Enquiry and Information Network - was the product of several days agonising.

Identity established, promote it; and here we start to tread on territory unfamiliar to local government. Use your imagination and sell; try pencils with your logo stamped on; get your team, with suitably emblazoned T-Shirts, involved in everything that's going, from sponsored walks and runs to parachute jumps. Do anything to keep the name in the consumer's eye.

Don't ignore more traditional methods, like newsletters, but whatever you do, keep up the standard of the image; an irregular or poor quality newsletter is much worse than none at all. Indeed, here lies another key; ensure that everything you do is smoothly organised and professionally presented. We have ourselves organised many staff briefing sessions, from area management groups to departmental management bodies, and we aim for the same high quality with each. Computer based graphics can provide a far higher quality of presentation than overhead slides, albeit more hassle to build and more equipment to assemble, but people remember them and their message; little things, like good welcoming coffee, also go a long way.

Clearly a lot depends on the personalities you have at your disposal, and we have perhaps been fortunate to have a committed group, who have invested a lot of their own time and money; but within the resources you have available, build an image and keep it up.

Training

It is literally never too early to start training staff, and training is arguably

Introducing Information Technology..

the key to the entire exercise; good training invokes understanding and commitment. Our own training programme is aimed at about 200 key members of staff, involving decentralised clerical and administrative support staff, professional supervisory and managerial staff, and senior management. Our inital exercise involved 5 half days basic familiarisation training for each member of staff. Members of staff who experienced difficulty were invited back for a further 2 half days, prior to the next main phase of training. This second phase of 3 half days for each member of staff involved detailed briefing on the development of the mainframe project and first principles of its operation. The final phase, estimated at a further 5 half days per member of staff, is planned as part of the implementation exercise, and will involve detailed system operation. Further sessions on ad hoc enquiry facilities and specific micro-computer packages will follow in due course. In the middle of the overall programme, staff were given a half day's training literally the day before their equipment was installed, as a confidence booster.

One thing we found very early on was that there were no training facilities available to the degree that we required, nor staff to man them or material to use; we therefore had to start from scratch, set up our own Training Centre in redundant staff accommodation, and write and deliver our own material. The results have been pleasing, and evaluations have shown that we have managed to create real enthusiasm for the use of information technology.

It is sheer madness to skimp on training; it is amazing how readily you will invest £250,000 in the rest of the development package, but skimp on the amount of training you are prepared to do. Never forget the personnel aspects we have outlined; lack of staff performance is the quickest way to completely waste your capital investment.

Ongoing Support

The game never stops; once you have a system running, you cannot walk away and leave it; you need an organisation to provide ongoing support and plan for future developments. We have a network of micro-computers running as mainframe terminals, and so we also have to support local uses as well as mainframe problems.

A possible model is an Information Centre, a concept copied from commerce, where a multi-skilled group of staff have as their own aim to support the information systems and satisfy the staff supplying and requiring information. We have identified 8 major tasks, and are in the process of finalising our Information Centre organisation to carry them out:

- firstline hardware and software support input/output of data for units not provided with online facilities
- SSCREIN system security
- Data Protection Act procedures
- information technology training
- ad hoc requests for information
- assistance with development of local applications
- future developments

Conclusion

We would be truly pleased if you were to read these views, and react with "Well, that's all common sense; we're doing it already". We ourselves made a lot of errors from which we had to recover, and learned the hard way. We have been fortunate in having enlightened senior management, and politicians prepared to invest in the future, but we have still had one or two bitter battles, largely centred on our unconventional approach. But the proof of the pudding is in the eating, and for us at least, it has worked.

Peter Marsh, Bill Ormerod and Jane Roberts work for Coventry Social Services Department

CASW is for the Voluntary and Community Sectors too!

Social work doesn't just belong to the statutory sector. We know that there is a great deal of good practice being done outside social services departments, probation offices, etc. We also know that many voluntary and community agencies are now using computer technology to support their administration, enhance their services and train youngsters and others in computer literacy and modern office practice. If you belong to such an agency or if your work brings you into contact with one, tell them about CASW and that it is for them too. Encourage them to subscribe and to participate in CASW's activities. Twist their arms to write to CASW and tell us all what they are doing, how they have used computers to support their work and what are their hopes and plans for the future. Historically, the voluntary sector has led the way - what is it doing with computers? Community groups and associations work at the "sharp edge" - how are they using computers?

CASW wants to hear from you.

Reviews...

"Individual Training for Project Management"

From:
Individual Software, Inc.,
marketed in UK by McGraw-Hill Training Systems, Shoppenhangers Road, Maidenhead, SL6 2QL.

IBM PC or compatibles. 2 Diskettes.

Price £69.95 plus VAT.

This software pack comes with minimal documentation. A short handbook gives instruction on handling different computer configurations, including hard disk, and tells the user how to get started. There are two opening commands. SETUP asks what speed to run the program, and the answer is saved to diskette, so need only be used again if you want to change it. INSTRUCT starts the program running, opening with a display of the main menu and an invitation to select one of the items or see more detail of the contents in 2 pages of sub-menus.

The presentation throughout is clear and well set out, though not particularly exciting. The screen displays print and graphics with good toning (this review was done with a monochrome VDU) and helpful movement. Just occasionally there are brief sounds, a scale when the program has loaded from diskette and a bleep here or there, but generally the author has opted to encourage concentration on the screen rather than provide distractions. There is a useful set of special key strokes to allow the user to move around the program, and dip into it as an alternative to following every step. The program itself is conventionally interactive. Some screens are displayed to be read, and then press any key to move on; others ask questions with the usual range of comments in response to a right or wrong answer. For anyone who finds this school classroom aspect irritating, a special key puts in the correct answer and moves on.

The object of the program is to provide training in project management, which it does by focussing on the techniques of critical path analysis, and the linked approaches of programme evaluation and review (PERT) and Gantt charts. The main menu follows a sensible sequence for the starter, beginning with some material on how to use the program, followed by a general introduction to Project Management. There are 8 core training sessions:

Project Planning
The Project Network
Critical Path Analysis
Calendar Scheduling
The Gantt Chart
Resource Allocation
Time/cost Tradeoffs
Project Control

The final menu items offer a lengthy glossary and an exit from the program back to DOS.

The critical path method (CPM) is a structured system of project management, based on identifying the stages and linking them together into the pathways which must be followed if the project's objective is to be achieved. It has always been a visually attractive method, useful in part because of its visual accessibility, and so it slots pleasantly into a computer program. Each stage has its box, and the computer's graphics can trace the pathways, identify the inter-dependencies, add the timetabling, and emphasise the critical path. Initial presentation is clear but simplistic, so the user should expect to gain a sound basic understanding, without much sophistication. Later sections rework the material in greater detail, and are quite sufficient to whet the appetite for further study.

The program offers examples of the various aspects of project management, some unrealistically simplified, others more complex, but it does not give the opportunity for the user to feed in his or her own project. It is a *training program* not a *project management program*, but it does regularly draw the user's attention to the advantages of getting one of the program shells into which one's own projects can be placed.

How useful is this program, or indeed CPM, to staff of the personal social services? Because of its clarity, the program is very useful to those who are starting in the task of management, or who want some ideas about bringing structure to their work. To the experienced project manager it will not offer anything new, and may be irritatingly simplistic in parts, but it is an enjoyable way of refreshing the mind about some of the principles of project management - easier than reading a book! Nevertheless, there are limits to the sort of projects which can be usefully handled by CPM. They need to be tangible schemes, if not literally bricks and mortar, then open to clear and precise description. As the program itself states - 'One of the biggest problems, however, in monitoring project status is not having clearly defined activities whose progress can be measured'. Thus in the social services there will be

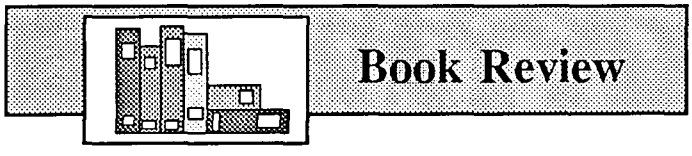
Reviews...

some projects suited to CPM, but many others which cannot be given the necessary precision.

Another major problem of project management in the front line of the social services is the unpredictability of much of the work. If CPM was applied, for example, to achieving some desired goal for a client, would the resulting project plan be workable, or would it be thrown askew by changes in the client's circumstances? In short, client dynamics can demolish the best laid schemes. However, it is noticeable that some attempts have been made in social work to use a pathway approach to target achievement, for example by Reid in task-centred social work, and Kushlick in goal-setting. Any social worker who is interested in these methods would certainly find it useful to run Individual's program and examine the underlying principles.

CPM does incorporate procedures for reviewing the pathways in the light of changed circumstances, but the program acknowledges that if these changes are too frequent then the task of continually restructuring the plan can become onerous. However, this is where the computer comes into its own, in that using a computerised project plan is much like using a spreadsheet. Once the plan is designed, changes can be fed in at the appropriate points, and the computer will work out their impact on the plan as a whole. Individual, Inc. specialises in training software, and does not catalogue a project planning shell; but it certainly provides the incentive to scurry off in search of one!

Bryan Glastonbury



"Computer Technology and the Aged - Implications and Applications for Activity Programs"

Edited by Francis A. McGuire
Published by Haworth Press 1986.

This well presented hardback book is, in fact, a reprint of Volume 8, Number 1 (January 1986) of the American Journal *"Activities, Adaptations & Aging"*. By using the references which accompany most of the eleven papers in the collection one is able to find pointers to most of the important work that has been done in the United States to bring some of the benefits of microelectronics to elderly people. The first chapter is the obligatory one which asks those questions which never seem to arise except in introductory chapters of books like this one e.g. "What are Bytes?" or "Can I use Apple disks on I.B.M. machines?". Two of the other chapters (on how a micro can be used to format and print a newspaper and how to use micros as a storage medium for assessment data), like the first one, have no special relevance for work with any particular age group. However, the other eight papers all have something to say about the exciting idea of using micros to benefit older people.

One paper is very speculative and concerns the potential for computer use to increase the rate of recovery of the cognitive processes following neuropsychological damage which results in perceptual and memory disorders. All but one of the other papers have a common theme of "hands on use" of computers by old people in various settings to increase their functional behaviour. The work described by Riddick, Spector and Drogin in a paper entitled *"The Effects of Videogame Play on the Emotional States and Affiliative Behaviour of Nursing Home Residents"* is based upon a control group methodology and provides a good model for further work to identify the thereputic ingredients of using microcomputers with elderly people. It is a pity that most of the software that was used by the authors of these papers was either unmodified arcade games or simple educational material designed for use with children.

The final chapter of the book (*"Computer Assisted Training for Activity Professionals in Long Term Care Facilities"* by Daniel Ferguson) is the only contribution which describes software which has been developed for the specific purpose of helping elderly people. Ferguson suggests that his Computer Assisted Instruction software used by people charged with caring for old people will increase the job skills of this growing number of professionals and para-professionals. Ferguson's field testing is impressive and his preliminary results would suggest that this "indirect" way of benefitting elderly people may be the best avenue for further research in the field. It is interesting to note that Dave Arber of the U.K., co-author (with Graham Stokes) of *"Software for Reality Orientation"*, is also concentrating on using computers to train up skills in thereputic methods which are able to reduce confusion of some elderly people; (this Journal hopes to carry an article about this work in the near future).

In his very brief contribution to this book, Fred Bourdelais tells how it was a 92 year old nursing home resident who made the initial request to learn more about computers which led him to run a course on the subject. It is inevitable that older people will increasingly come to want the benefits of information technology beyond the limitations of passive television viewing. This book is one of the first tentative steps of the helping professions to prepare for this.

Colin Barnes

A Suitability Evaluation of Differing-Complexity Expert System Shells from a Social Work Viewpoint

C.K. Harvey and S. Baggott

Introduction

The work described here arose from a desire to bring together experience of social work and artificial intelligence (expert systems) with the aim of combining research interests. As a "feasibility study" into the possibilities, we decided to use an expert system shell to develop a fair-sized Social Work-based expert system. This paper outlines the findings of the search for a 'vehicle' to achieve this.

There are many shells on the market. For our purposes we chose to evaluate four of them: *Micro-Expert, Expert-Ease, ES/P Advisor*, and *apes*. (The first three subsequently appeared in the "Expert Systems Starter Pack" supplied by the National Computer Centre; the so called "Alvey Box").

For the purpose of the description, we have classified each shell to one of three 'levels' : Level one shells can be called 'rudimentary'; level two have better user interfaces and are thus easier to use and understand; level three are more powerful and offer more facilities.

Enuresis - The Test System

It was clear that the most effective way to evaluate the four shells was to actually (attempt to) implement a 'real' system on each of them. Having said that, we did not want too complex a system that we became tied up with the problems of the test system rather than those of the shells.

To satisfy our requirements we took a simplified version of the knowledge base used by the ENURAID system [ref: 1]. Using this we would not have to spend time on (much) knowledge engineering but would have rules from a 'real' domain to use in our evaluation.

Basically, our Enuresis (bed wetting) knowledge base contains about 25 rules whose purpose is; firstly, to determine whether a patient actually suffers from Enuresis (rather than other bed wetting problems); and secondly, to give advice to the system user (usually the social worker) as to how best to proceed. (An example of the advice given can be seen in the ES/P Advisor output screen example.)

Overview of Enuresis Knowledge Base

As mentioned above, the first section of the rule base determines which of the four situations pertains:

i) Enuresis proved:
if the bed is wet (by urine)
and it is wet once a month or more
and the patient is older than five.

ii) Wetting proved (type 1):
if the bed is wet (by urine)
and is wet less than once a month
(irrespective of age).

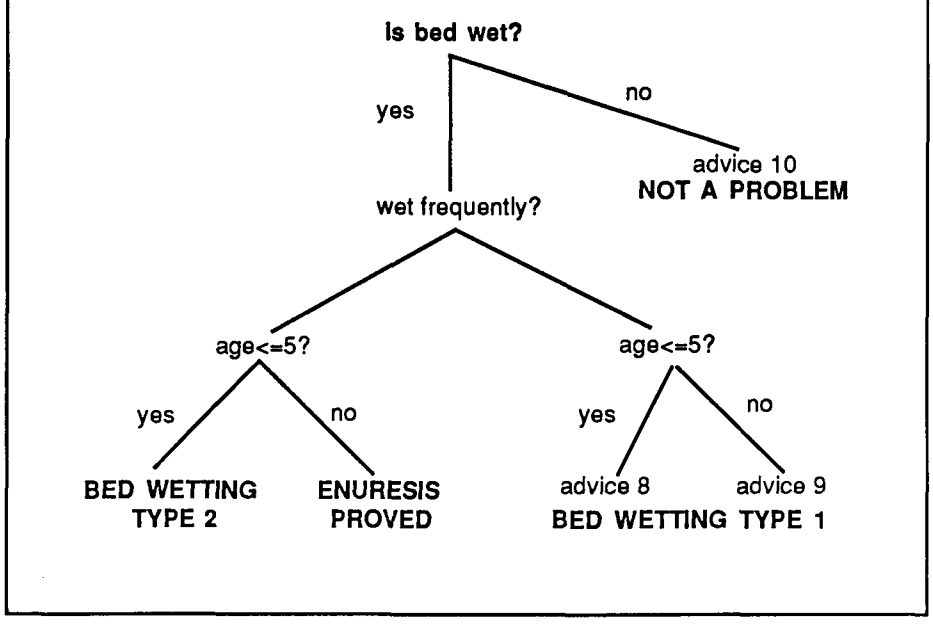
iii) Wetting proved (type 2):
if the bed is wet (by urine)
and it is wet once a month or more
and the patient is five or less.

iv) Not a problem:
if the bed is not wet
or the bed is wet (but not by urine)

Given that one of the above has been determined, the next step is to give out the appropriate advice on how best to approach the case. For situations (i) and (ii) this involves the second section of the rule base. The more straightforward is (ii) where the age of the patient is taken into account. The other (i), uses further rules to determine which of the three parties involved (social worker, patient and concerned relative) feel the case requires attention. This information is used to select the best advice to give. The below decision tree (*Figure 1)* outlines the first section of the knowledge base

The second section of the knowledge base follows on down the tree from the point marked ENURESIS PROVED.

Figure 1



There are six types of advice offered here; which of these is given is dependent upon which of the three parties is concerned about the situation, viz.

advice 1:
Social worker concerned
advice 2:
Patient concerned
advice 3:
Relative concerned
advice 4:
Social worker and Patient concerned
advice 5:
Social worker and Relative concerned
advice 6:
Patient and Relative concerned.

Overview of Micro-Expert

A *Micro-Expert* system is based around a series of interacting hypotheses forming a tree structure. These hypotheses follow an if-then rule format. The top-most node (or root) of the tree is the goal which the system sets out to prove.

The system consists of two main programs: the Advice Language Compiler *(Expcomp)* and the run-time system *(Runexpt)*. It works in a way much akin to using 'conventional' compiled programming languages. The user uses a text editor to create a file containing the required system defined in terms of the Advice Language, and then compiles it (using *Excomp*) into Micro-Expert's internal representation. The compiler's output is then executed using the run-time program, *Runexpt*.

Errors reported by the compiler must be corrected in the source file before an attempt at re-compilation is made. This process continues until an error-free compilation is obtained.

The use of an 'external' text editor in addition to *Micro-Expert* implies requiring a certain knowledge of the microcomputer's operating system.

Micro -Expert Enuresis

The building of a *Micro-Expert* system follows the 'classic' pattern for developing an expert system. Rules are elicited from the expert in an if-then format; these are then 'linked' together to form goal trees. The format of the rules is very dependent upon the syntax of the Advice Language. This is especially important when considering *Micro-Expert* as its syntax is fairly difficult to understand in places.

As an example, consider the following 'English-like rule'

If the bed is spoilt
and it is spoilt with a high frequency
and the patient is not five or under
then enuresis is proved

This would be represented in Micro-Expert as in *Figure 2* :

Figure 2

```
RULE ENURESIS PROVED 'enuresis is the problem'
        BLOCKED BED SPOILT      1       5
                HIGH FREQ       1       5
                PATIENT AGE     5       -1
        OR BED SPOILT HIGH FREQ PATIENT AGE
```

The numbers 1 and 5 highlight one of the most awkward aspects of the shell; that is, that everything the system 'knows' is represented by a value on the scale -5 to 5. For example, a "not true" would be -5; a true, 5. Why is this? Because the system is able to work in probabilities (using Bayesian ideas). Unfortunately, this means that even when you are working with definite true/false values, you must still define things in the -5 to 5 range. This would not be too much of a problem if it was only the system designer who was aware of it; but the system, during execution, explains what it is doing probabilistically talking in terms of goals and certainty factors.

Actually operating the system, assuming you understand what it is saying/doing, is fairly easy. The compiler *(Excomp)* is easy to use and gives useful error messages.

The user interface to the system is rudimentary. The use of colour and/or windows would make a tremendous difference, but then we do describe this as a level one shell. We had to use several 'fudges' to get the system output design to a position where an end-user could use it. The system still appears 'cryptic' in places, however.

Actually coding the system on the shell has its own potential problems. An analogy can be drawn with the BASIC programing language: it is easy to create 'spaghetti' programs. Our first, naive, attempt developed into such a system and, eventually, had to be scrapped because it grew into an unintelligible mess. It is not really possible to incorporate useful amounts of text into the systems output. To overcome this we give a one-line response (at the end of a consultation session) directing the user to a printed sheet.

The system documentation tries to lead the user/system designer through the basics of how to design a system but, like many (most?) manuals is difficult to understand, or is vague in places.

Expert System Shells Evaluation..

Micro-Expert is very much a knowledge engineer's 'learning' tool. This is typified by what appears to be an add-on option to the shell that allows a 'pictorial' trace through the knowledge base and the current status of processing. Although the layout of this explanation facility (i.e., using little boxes drawn in colour on the screen) is good, a certain understanding of the underlying system operation is still required.

As stated above, *Micro-Expert* follows the 'traditional' tree approach. Our Enuresis system can be viewed as the tree shown in the overview of the knowledge base.

The adjacent example piece of output [*Figure 3*] shows how we approach giving advice. It also shows the 'clinical' presentation during execution.

Figure 4 adjacent shows how the explantion option displays information (in this case about the "patient age" question).

Overview of Expert-Ease

Expert-Ease is a fundamentally different system from *Micro-Expert.* Firstly, it can be described as a 'turnkey' system in that all operations are controlled within *Expert-Ease.* There is no need to use an 'external' text editor. This makes it a considerably easier system for the novice to operate.

Examples of situations are supplied to *Expert-Ease* from which it generates rules. This process is called 'induction'. The system searches through the supplied examples looking for patterns. Once the patterns are identified, rules are created and linked together to form a decision tree.

This tree is then used by the Query system. The tree is 'parsed' in the 'usual' expert systems' manner;

Figure 3

The Current goal is whether or not:
an enuresis problem exists
Certainty factor is 5.00 Certainty range is -5.00 to 5.00

problem factor
Is it true that you have a problem? Type "A" for an answer.
[Y..!..N] (or option) ? A

My view is that although the bed is wet, you do not have an enuresis problem, read form number 9. Please type "N" to end the session.

Figure 4

DETAILS

Name: PATIENT AGE Type: YES/NO Number: 8
the patient is 5 years or under

Certainty Factor is 0.00 Certainty range is -5.00 to 5.00
STATUS: Not yet answered (not BLOCKED)
Type <space> to continue

Figure 5

Bedwet	Age	Freq	Advice
dry	*	*	advice 10
wet patches	8	hardlyever	advice 9
wet patches	10	everyday	enuresis is proved
wet patches	6	weekly	enuresis is proved
wet patches	12	monthly	enuresis is proved
wet patches	1	hardlyever	advice 8
wet patches	3	everyday	advice 7
wet patches	3	weekly	advice7
wet patches	4	monthly	advice 7
wet patches	5	hardlyever	advice 8
wet patches	5	weekly	advice 7

questions being asked when the leaves of the tree are reached. Finally, advice is supplied to the user depending upon the results obtained from the tree parse.

The suppliers say that in using *Expert-Ease* to induce rules from examples to build this knowledge base, the knowledge elicitation stage is by-passed. It is stated that this can be useful where the expert knows a result but not how it was derived.

Expert-Ease Enuresis

As stated above, *Expert-Ease* is a turnkey system. However, when loaded, *Expert-Ease* goes straight into a demonstration system which has to be used and exitted before the user finds him/herself on the 'Filer' screen which shows the previously-saved systems. (The demonstration system can subsequently be avoided by renaming it).

Expert-Ease is fundamentally different (in the way in which the system is created) when compared with most other expert system shells. In the usual situation. rules are elicited from the expert(s), checked (by viewing the overall knowledge base in terms of tree structures) and input to the system. One knows the structure of the knowledge base and how the system will subsequently 'behave', even before entering the data to the shell.

However, instead of eliciting and entering rules to *Expert-Ease* , 'examples' are input which the system then uses to induce the rules. The result can still be viewed as a tree-structure; it's the way in which it is derived that it differs.

To create our *Expert-Ease* system, we 'forgot' our previously derived Enuresis rules and instead used a (small) set of example cases. A small set was deliberately chosen to highlight the potential problems when using an introduction-type system. The examples we used (to create the first (determine problem) goal can be seen in *Figure 5* (previous page):

The fact that each of these columns has a heading shows that before example cases can be determined, 'attributes' around which the examples are based must be decided upon. What we have above, therefore, are not rules but just what has been observed in typical, 'real' situations.

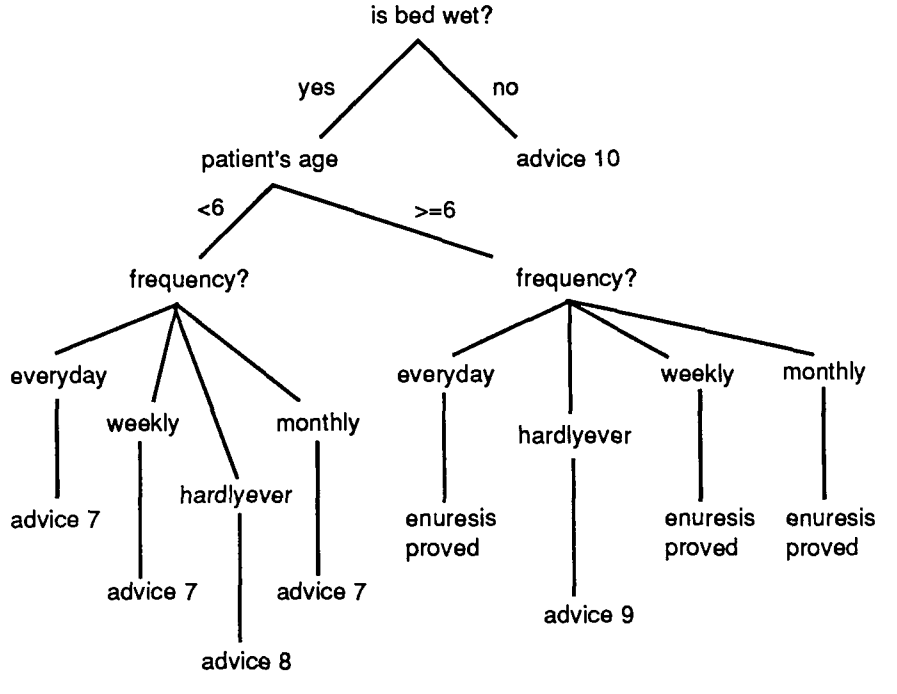
The rule 'induced' by *Expert-Ease* from these examples can be viewed diagramatically in *Figure 6* (below):

The important thing to note is that the induction process 'decided' that the age split should occur at age 6, rather than 5 as in our expert-derived rules. This is due to one of two reasons. Firstly, that the expert's rules are incorrect, that is, the system is nearer the mark; or secondly, that the examples are misleading. This brings out the main criticism of induction: if the set of examples used is not sufficiently comprehensive then 'incorrect' rules can be obtained. The problem comes in knowing the 'correct' set to use. One could suggest that the derived rules are taken back to the expert, who is asked what he/she thinks of them but, assuming, as in our case, the expert believes the age attribute value of 6 to be slightly (?) off-target, then the *Expert-Ease* supplied set of examples must be 'fixed' to give better output rules.

Once the rules are induced, *Expert-Ease* operates in a similar manner to other shells in that the rule tree created is parsed; with questions being asked of the user as and when appropriate.

The 'bare' shell turns all questions into the "Is it true that..., answer Yes or No" type. However, it is possible to tailor

Figure 6



Expert System Shells Evaluation..

Figure 7

EXPERT-EASE file : ENUFESIS 44656 bytes left 1: BEDWET

How often does the patient wet the bed?

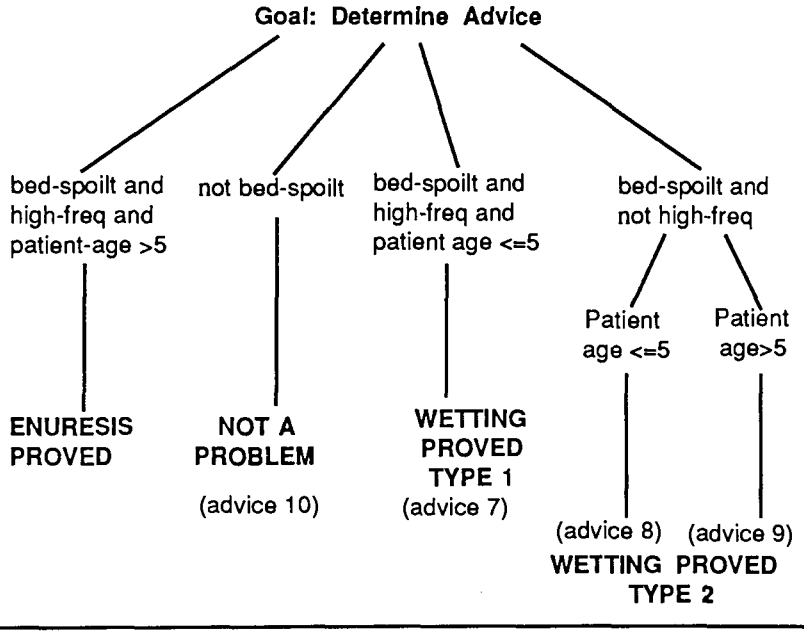
Please answer as near as possible the questions below.

1. Every day.
2. Not very often (Hardly ever).
3. On a weekly basis, say once or twice a week.
4. Once a monthor more

running ENURESIS
Enter Value 1..4
>3

question text given to the user by linking text in via the attribute screen for the induced rule in the question. A (too) small two line window allows this text to be viewed and changed by the system creator. Slightly annoying is that all answers to questions must be given by choosing a number from a menu. Even when the answer is Yes or No, the user must enter 1 for Yes or 2 for No (as can be seen in the following example screen *Figure 7 above*).

Figure 8



The help facility provided by the system is quite comprehensive, as are the manuals (although there is more than one version of the latter).

There is no explanation facility available with *Expert-Ease* . We believe this to be an important point of omission. Most definitions of what an expert system is include a reference to explanation as important if the system is to be credible in the eyes of the user.

It is possible to load another previously-created system from that currently running and then to return to the first system. Our Enuresis system makes use of this facility in separating the "determine problem" and "give enuresis advice" sections of the system. This is a useful facility much akin to procedure/subroutine calls in conventional programming.

Understandability for the user depends upon how much effort the system creator puts into the system design, for example, when designing the overall structure of the system, and in the use of the ability to add additional text. This is especially important due to the fact that there is no explanation facility. Very careful consideration must be given to the wording of questions, for example, in order to avoid ambiguity.

Expert-Ease provides no end-of-session review. This is a facility valued by users who wish to take away a hardcopy of the findings of the system. Hardcopy of the consultation process is available but not for a concluding summary.

Rule induction and system operation can be described as being too 'clinical' due to the creator having little control over the rules created. Despite the manual telling us differently, we found occasions when the system included rules to a format we did not want.

Expert System Shells Evaluation..

Overview of ES/P Advisor

ES/P Advisor is described as a 'text animation' system. That is, a consultation system can be developed that displays text to the user. The expert-supplied rules are used to determine what text is 'animated' in this way.

As with *Micro-Expert* an 'external' text editor must be used to initially create the input to the system. This input is defined in terms of *ES/P Advisor's* Knowledge Representation Language (KRL). This is then compiled to produce output which can then be interpreted by the consultation shell. (A windowed, menu-driven system).

Basically, each section of text is preceded by a condition (rule), which is evaluated to determine whether to display the associated text or not. Thus, it can be said that the main objective of *ES/P Advisor* is to obtain and display information, not in general to reach some final specific conclusion.

ES/P Advisor Enuresis

The first thing that strikes you about *ES/P Advisor* is the excellent use of colour in the window system. This could be seen as a small point but it is a very important aspect of the user interface.

A not-so-good aspect of the system operation is the need to exit from the ES/P compiler to an 'external' text editor each time any errors are corrected. This can be very time-consuming and tedious, requiring knowledge of how to (effeciently) use the editor. Having said that, the KRL compiler itself produces good error messages and even attempts to offer advice as to what you may be doing wrong.

The main difference between the Enuresis system we created on *ES/P Advisor* and on the other systems, is that we did not (strictly) need to create a goal tree. In some sense we designed the system in a bottom-up manner. That is, given the text to be output, we decided upon the conditions necessary to display each particular piece of text.

The first section of the system can be outlined as in *Figure 8*, page 12 (the second section can be pictured in much the same way):

As an example of the system operation consider the following output. The first screen [*Figure 9*] shows how explanatory text can be shown. The second screen [*Figure 10*] displays,

Figure 9

THE ES/P ADVISOR. Vers 1.11d Copyright (c) 1984 Expert Systems Int.
GOAL: sw concerned SECTION: enuresis proved

Having proved that Enuresis is in fact the problem,
to determine the correct advice to give, we need to know
which of the three parties involved:

Fred (the social worker),

Pat (the patient), and

Steve (the relative),

are concerned about the situation.

Is Fred concerned about the situation?

Figure 10

THE ES/P ADVISOR. Vers 1.11d Copyright (c) 1984 Expert Systems Int.
GOAL: relative concerned SECTION: enuresis proved

The child has a problem which could be helped but it would be impossible to proceed without the consent of the child and the guardian.

Under these circumstances, it is necessary to undertake a detailed assessment of the total situation. Concern is indicated with regard to the child's general care and this point needs investigation. Is there any history of child neglect or abuse? - Check with other agencies, etc.

Is there a cultural or family norm which underlies this situation?
Who referred the child to you in the first place if the principal actors do not see a problem?

Is Steve concerned with the situation ? no

Expert System Shells Evaluation..

once the question shown has been answered, the advice text arrived at. The first screen *(Figure 9)* illustrates several useful features. Firstly, at the top of the screen, the system constantly displays the current goal under investigation along with the section of the knowledge base in which it occurs. Secondly; the main aim of *ES/P Advisor* is to display text to the user at the end of a consultation session; however, this facility can be used to give additional text each time a question is asked, as can be seen. There is no need for the user to ask for amplification of a question (as with *Micro-Expert*) although this is also possible.Also, the system can be 'personalised' by the use of variables to hold, in this case, the names of the parties involved in the consultation.

These points serve to illustrate the extent to which the user acceptability of the system is dependent upon the system designer. The 'completeness' of the knowledge base also rests with the designer (or knowledge engineer) more than, say, *Expert-Ease* . Because it is easy to put in a piece of text and place a condition before it without (necessarily) considering the structure or operation of the rest of the system, it is possible to create an incomplete knowledge base, and hence unreliable system.

ES/P Advisor has a very easy to use, comprehensive, help facility which allows a back-trace (in a tree-like manner) of how the system reached the point it has. All system parameters can also be examined at any time and values volunteered for those previously un-installed. Similar to the explanation facility is the trace mode which, when enabled, as the system proceeds, gives the current goal and then whether it was proved or not.

Two further considerations are: the ability to save a session and continue later, and the option of switching on a log mode which writes all input and output to a file which can be examined/printed after the session has finished.

Figure 11

```
confirm (enuresis)

Is there a wet mark on the bed from the excretion of urine ? yes

Does the patient wet the bed once a month or more ? yes

Is the patient 5 years of age or under ? no

Who is concerned ? (or 'end')

1 - social worker
2 - patient
3 - relative

        Answer is social worker
        Answer is end

                    /* *** Advice 1 * ***/

The child has a problem which could be helped but it would be
impossible to proceed without the consent of the child and the
guardian.

Under these circumstances, it is necessary to undertake a detailed
assessment of the total situation. Concern is indicated with regard
to the child's general care and this point needs investigation.
Is there any history of child neglect or abuse? - Check with other
agencies, etc.

Is there a cultural or family norm which underlies this situation ?
Who referred the child to you in the first place if the principal
actors do not see a problem?

            ==> Yes, I can confirm enuresis    stop
```

Overview of *apes*

apes is written in, and is essentially a front-end to, micro-PROLOG. It is difficult to call it a shell, since it assumes a strong familiarity with the underlying micro-PROLOG. In fact, the developers suggest one should work through the supplied book "micro-PROLOG: Programming in Logic" [ref: 2] to help with the use of *apes*.

Having said the above, *apes* is a very powerful tool for developing logic-based expert systems. Rules are defined in a similar format to that used in *Micro-Expert* but do not then have to be compiled since *apes* is interpreted.

There are four basic components to the system: an interpreter (which acts as a 'standard' Prolog interpreter); an interactive component which asks the questions of the user, checking and recording answers, etc; an explanation facility which explores proofs found by the interpreter; and a front-end user interface.

apes Enuresis

Firstly, *apes* is not a 'packaged' shell like *Expert-Ease* and *ESP/Advisor*. It is referred to as a sytem that "can be used to design, implement and debug logic programs or logic-based expert systems". This makes it an "advanced *Micro-Expert*'" in that the rules, which are defined in an if-then format, 'link' together in a tree-like manner and subsequently are parsed to prove a goal. This is much like the way Prolog actually works. *apes* is, essentially, a front-end to micro-PROLOG used to aid the creation and use of a Prolog database.

So why have we investigated it as if it were a shell? We believe it is a very useful tool for developing more complex expert systems once level two shells have been 'outgrown'. We stress the word 'tool' because as *apes* stands, an amount of expert systems knowledge is required to create end-user systems along the lines of Enuresis.

apes, being a logic-based system, is not too good at handling text. We had to use one or two unconventional means to achieve a comparable system to those obtained on level two shells. The example consultation output below *(figure 11 page 14)* shows the, rather bland, output obtained. This is similar to *Micro-Expert* but, with *apes*, the designer has the 'power' to build whatever he/she wants into the system (e.g. windows and colour).

An example of the more-powerful facilities available can be seen in the way the system determines which of the three parties is concerned about the situation. Any number of replies can be made to the "Answer is" prompt; thus obtaining the answer to three questions in one go. Having received this information, the system goes away and determines an answer without having to 'bother' the user with more (individual) questions.

The manual is not the easiest to use. Most of *apes* is explained via a 'tutorial' example. If *apes* is aimed at people with some knowledge (especially of Prolog) then a 'normal' computing-type manual would have been better. But then we come back to the point: just who is *apes* aimed at? The way the manual is written suggests that it is pitched at the current expert systems market, not at 'established' programmers.

The explanation facility prints a back-trace of the rules tree. This is suitable to help the systems designer but not the end-user. This is another example of how the *apes*' (micro-PROLOG's) facilities available could be used to build a much better user interface. As with each of the systems described in this paper, user acceptability is dependent upon the amount of time, effort, and thought that is put in by the system designer.

Since, like Prolog, everything that *apes* knows about or discovers is maintained in a database, it is possible to stop a session at any point and save the database; to continue later where you left off.

Summary and Recommendations

In the Introduction we stated that we could put each of the four systems onto one of the three 'levels'. *Micro-Expert* is a "first generation" expert system shell (our level one). It serves to indicate the way shells have changed over the past couple of years; it is interesting to play with as a means of learning something about the workings of, and theory behind, expert-systems but is far too awkward a tool for 'serious' end-user systems.

Our attention should really be on the other three systems. Each has its advantages and disadvantages. *Expert-Ease* and *ES/P Advisor* can be called level two shells; *apes* is on level three.

Expert-Ease is suitable for those situations where you have many, well-defined, example cases, rather than the rules pertaining to them. It has the advantage of being a turnkey system which is fairly easy to operate. The main question to ask yourself when considering this system is, do you have sufficient example cases to allow *Expert-Ease* to induce a comprehensive set of rules? This is not just an *Expert-Ease* problem. The 'induction question' is a hotly-debated topic in general.

ES/P Advisor is similar to *Expert-Ease* in that it is a windowed, menu-driven, (almost) turnkey system. There the similarities end. If your design is based around displaying text, this is a good system to use. As shells go, *ES/P Advisor* is a user-friendly system. However, it is not very system designer-friendly. Apart from the awkwardness of having to use an 'external' text editor, and having to sit through the slow compiler, there is a need for the exercising of thought on the part of the systems designer/knowledge engineer. This is mainly because it is so easy to create and extend a system; numerous discrepancies/inconsistencies/in-accuracies can creep in to the knowledge base.

The fourth 'shell' examined (*apes*) is termed "level three" not because it is an easy-to-use powerful system with a good user interface but because it has the potential to be so. In this sense it is not comparable with *Expert-Ease* and *ES/P Advisor*. The latter are systems designed to be loaded and used. *apes* cannot really be described as such. However, if you intend to "move on", having 'outgrown' the level two shells, then *apes* could be a direction to go in.

Expert System Shells Evaluation..

As a warning, you will require more declarative programming/expert systems knowledge to get anywhere serious.

In conclusion, despite the tremendous amount of 'hype' around, expert systems shells must be considered seriously and not just as 'toys' or 'gimmicks'. Given an amount of advice and help before (and during) development of a system, they can be a really useful aid to social workers. Expert systems can be an effective tool to:

-use when no expert is available
-use for training new people
-provide expert advice
-replace experts and less-expensive personnel
-aid problem solving and decision making
-aid an expert.

One of the main problems at the moment, which none of the evaluated systems overcome, is that most applications have to be 'manipulated' (to a lesser or greater extent) into a form that can be implemented on a shell. Having said that however, there are many areas which are ripe for exploitation by systems such as those described herein.

Finally, in answer to the question we started out with, that of finding a suitable 'vehicle' to continue our research, we are continuing to develop the *ENURAID* system on *Expert-Ease*; as well as implementing an advice-giving consultation system (based on the new Custodianship Law) on *ESP/Advisor* as well as on *apes*. The latter, to exploit the opportunities presented by micro-PROLOG.

References

1 **Winfield MJ and Toole SK**
"Enuraid II: An experiment in Expert Systems for Human Services Personnel"
(Proceedings of the ninth Annual MicrocomputerWorkshop, University of Strathclyde, 16-18 Sept.1985)

2 **Clark KL and McCabe F**
"micro-PROLOG: Programming in Logic"
(Prentice Hall 1984)

3 *Micro-Expert User Manual*
(ISI Ltd)

4 *Expert-Ease User Manual*
(Human Edge Software Inc.)

5 *ES/P Advisor Reference Manual*
(Expert Systems International)

6 *apes Reference Manual*
(Logic Based Systems Ltd)

The authors are both members of the Birmingham Polytechnic Dept. of Computing AI Group

Contributions to CASW

The Editor of Computer Applications in Social Work and Allied Professions welcomes articles, reviews, news items and letters from readers.

Articles

Articles should be from a minimum 750 words to a maximum of 5000 words.

Reviews

Reviews of printed material or software should not normally exceed 300 words, unless discussed beforehand with the Editor or Review Editor.

News & Letters

Either the Editor or the News Editor would welcome items of news since the Journal aims to give regular reports on the latest applications of computer technology. Letters should be addressed to the Editor.

Required Presentation

All contributions to the journal should be typed or printed (draft quality is acceptable), double-spaced and single-sided.

Please send three copies of articles and reviews.

Potential contributers are invited to contact the Editor or, as appropriate, the News and Review Editors, to discuss a possible item (contact addresses and telephone numbers can be found in the CASW information block on the editorial page at the front of the journal).

The journal does not maintain a long waiting list of material for publication and those who have a contribution accepted can expect it to appear within the next two issues.

Computer Applications in Social Work Education

Professor Dr. Fritz Gruendger

Introduction

If I had been asked, say, five years ago, to present a paper on 'Computer Applications in Social Work Education', most of you, I presume, would have expected me to use a question-mark. At any rate I would have dedicated much time if not all to the questions of whether-or-whether-not and why-at-all. And after a series of pros and contras, I might have come to a cautious and qualified, but in the end, positive judgement.

Here and now all these questions of 'whether' and 'why', then crucial and vital, seem to have become rather obsolete and irrelevant. Anyway, less than half a decade was sufficient to convince social work people and institutions that computer developments not only touch their activities but actually affect and change them. Computers have invaded not only production plants, research departments, public and business administration, but they have already crossed the social agencies' thresholds. Even in continental Europe, the question discussed is no longer the whether-or-not one.

Stating that as a matter of fact does not at all mean that social work even passively has already put up with this new and rapid development, not to speak of facing the facts and responding creatively. On the contrary, there is a widespread mood, if not of fear and anxiety, then of irresolution and indecision. Everywhere important investment and organizational decisions concerning computers are either postponed or taken head-over-heels.

Talking about the lack of helpful and trustworthy information, the other day a social welfare manager sighed:- 'With regard to the question if and how to incorporate the computer into social work, someone only needs to utter his opinion loud enough, and he is considered as a computer expert'. Another told me, 'Left alone with flimsy and contradictory information and the lack of convincing guidelines it seems to be comparatively rational behaviour to close one's eyes and ears and throw the dice to get to a decision'.

It is only natural then, that the same irresolution as to how to respond in an adequate manner and with adequate measures to the computer challenge exists not only in social work practice, but perhaps even more in social work education. In any case it holds true in so far as in social work practice investment in equipment and organization is made with a time horizon of no more than five or seven years. In education it is a matter of decisions about investment in human beings, having a perspective of a whole working lifespan; here we are looking three or four decades ahead. To be fair, we actually must admit that social work education can no longer provide the full mental outfit for a whole working life (if it ever could . . . !). Without advanced and continuing education, without organized forms of life-long learning, without brushing up and bringing up to date your professional knowledge, effective social work is no longer providable. That will hold even more for the future. But it is for the sake of the future, theirs and ours, that we send the rising generations to schools.

..there is a widespread mood, if not fear and anxiety, then of irresolution and indecision. Everywhere important investment and organisational decisions concerning computers are either postponed or taken head-over-heels

Questions

So, if a School of Social Work, respectively the social work department of a Polytechnic or University, has determined to enter Computer Applications in its syllabus, it may soon feel like the Greek hero Hercules facing the nine-headed monster named Hydra: in return for each of the nine heads he cut off, two new heads grew. And that is exactly the situation of social work that prevails; for, having resolved the problem of whether-or-not, i.e. having decided to make the first step towards the introduction of computer applications, a multitude of new problems emerge.

Among the **general questions** the predominant ones are:

- What shall the students learn?
- What weight and space shall be given to computer applications in the curriculum? (Shall computer applications have a core or a fringe position?)
- What shall be the contextual relation between computer applications and the other subjects being taught?
- Shall computer applications become a compulsory or an optional subject?

One vital question will not be treated in this context, that of financing computer projects. I would rather take it for granted that the financial support you get mainly depends on how convincing the answers are you have given to the whether- and why-questions and to the general questions mentioned above. That is to say, your financial conditions depend more or less on how skilful you have been marketing the computer issue towards the body responsible and towards the public.

Computer Applications in Social Work Education...

The more **detailed questions** when establishing computer applications as a subject are:

- How to 'sell' the computer application-project both inside and outside the school, how to overcome reservations if not resistance of the students and with the staff (teaching and non-teaching)?
- What hardware is to be acquired, what software to be chosen, and - maybe most important - from whom?
- How many workplaces must be installed, and in what way?
- How to organize the lessons?
- What subject matter?
- What qualifications must the students meet, and on what level are the courses to start and to end up?
- How to recruit the computer applications teacher - from outside, or will interested members of the teaching staff be suitable?

Considering this shower of questions the establishing of computer applications courses in social work education can actually have a nightmarish quality. The issue as a whole is too recent, the experiences are as yet too sporadic, and only by an exchange of experience between students already exposed and those not yet exposed is expertise going to materialize. A couple of books on computer teaching and teaching computers in schools have turned out to be less helpful than anticipated, at least for our purposes, for they mostly refer to situations and circumstances different to ours.

So I shall try to give you an overview of principles, rules or guidelines, distilled from both theoretical considerations and my own experiences, which have been more or less confirmed by some colleagues of mine teaching computer applications to social work students. I am convinced that there do exist generally acceptable and valid experiences with which we can help each other, with only one exception to be conceded, that the hardware market has in every country developed its very specific features, so there is no use in recommending certain products or producers of the hardware sector.

The 'Scenario' Approach

If we are now looking for an approach which enables us to derive rules to answer the questions mentioned above, we think best of a pyramid. Its top consists of a trivial maxim, i.e. the maxim that social work students are to be prepared for the future in social work practice. If you agree to this, then you have to agree to its consequences. In general, vocational education will always have to consider not only the technical, social and environmental conditions of the present, but also trends have to be envisaged, future developments have to be anticipated, whether they are certainties, probabilities or bare possibilities. Thus our view on the world of tomorrow and the day after tomorrow determines also the social work education of today. So, when we ask, what space and priority will be needed for computer applications courses in the syllabus, then we must try and find an answer to the question, what part is the computer expected to play in social work practice during the next decade?

..we are driving into a narrow pass if not impasse, if we fix our minds and eyes on the social worker sitting in front of the screen and pressing the keys

Certainly you will agree with me, when I say that very much depends on the idea we form of the tasks and methods of future social work. We are driving into a narrow pass if not impasse, if we fix our minds and eyes on the social worker sitting in front of the screen and pressing the keys. In reality the spectrum of computer-oriented or computer-minded social work even today is already much broader, much more differentiated. Accordingly, the education must be diversified. We find, for example, partly in full operation, partly in an embryonic state, the following six typical computer-and-social-work scenarios:

1. The social worker does not work with a computer or its terminal, but he gives data from his work to or receives it from another department or some superior or subordinate unit using computer devices. To him it is essential to know what it really means when he is told: 'It's going to the computer' or 'That's the computer's fault' or 'The data is no more/not yet available, it's in the computer' or 'It can't be wrong, it has been done by the computer'.

2. The social worker is using a terminal or another extension of the mainframe computer for the purpose of unilateral or bilateral exchange of information with another unit.

3. The social worker is using an independent microcomputer to do his deskwork.

For the last two situations mentioned the social worker must have a positive attitude towards computer work. If he is expected to be effective, he will need to acquaint himself with well-chosen examples of applications programs or packages, whereas it normally does not make much sense to train him solely to use a specific program. The probability of applying this very program in his practice is, in view of the variety and

multitude of program systems and their short lifespan, extremely low. In this context the question emerges, whether it is necessary or even sensible to learn how to write a program or at least to learn a programming language.

This question cannot simply be answered with a "Yes" or "No", and I am inclined to recommend a compromise. The social work student should acquire at least fundamental knowledge of one of the high level languages, sufficiently to understand something of the characteristics of programming and programming languages. For that purpose I have had up to now fairly good experiences with the language BASIC. Its advantage is its easy rule system; it gives early success to the student, and is widely used. I know a lot of social workers who write their own BASIC programs and work with them quite happily. But in my view there is no real obstacle to switching, after an introductory BASIC phase, to a more ambitious or more creative language like PASCAL or LOGO.

4. The social worker uses computer facilities for his direct work with clients: for instance in counselling, educational and therapeutic activities. One needs a special skill and empathy to help the client trust and cooperate, and to build a working triangle of communication, including the machine, which does not disturb the interaction between the human beings involved, but supports and improves it. To impart the ability for computer-assisted client work to social work students will always call for the inclusion of other subjects, especially Social Work Methods and Psychology.

5. More and more social workers have to work with clients who are spending many hours of the day in front of a V.D.U. You cannot understand the situation of a computer-user if you have never felt what stress and what fascination simultaneously derive from this medium, that is to say, if you have never been using a computer yourself.

6. The social worker himself lives, even outside his professional life, in a society which is increasingly characterized by the application of visible and hidden computers. It will become more and more difficult - and it is already difficult enough - to understand the role of the social services in our post-industrial society without having realized the function of so-called 'artificial intelligence' and 'information technology' in the different areas of social life.

Let me sum up that review of computer applications scenarios. We see that the social worker will be confronted with computer applications on different levels and from different aspects, and he will have to face them in a productive way, from the social work point of view. Furthermore, we see the development in our society of moves towards computer-oriented behaviour of the individual, of social groups, and of institutions. What this behaviour will look like, what counteracting forces may work, what speed all these changes will have, is very difficult to foresee. Partly the issue is a highly speculative one, and we can leave it for a while to the imagination of fiction writers and readers. But here and now decisions have to be taken in order to prepare our students for the social work reality of the coming years. Ultimately that is the reason why we need to be at the same time cautious and courageous, and therefore some guidelines should be given which have already stood with the first series of tests.

..here and now decisions have to be taken in order to prepare our students for the social work reality of the coming years.

Guidelines

Guideline A:
Teleological (aim-oriented) computer applications teaching.

Wherever the computer wave rolls to, I think there is no real chance on the labour-market for a social worker converted into a social engineer. What we do need now, in the near and in the far future, are social workers who are all expected to be computer-conscious. Computer-consciousness means that if they talk about computer applications, they really know what they are talking about. And whether they support computer applications for social work purposes or reject them, they will only be taken seriously as soon as one recognizes that they have already got some pragmatic idea of the abilities of computer applications and their limits, of their chances and of their risks. I think it is more than a task; it is the *duty* of social work education to give its students the opportunity to have a look and a try at computing.

Not all students, but a large proportion of them, will need ever more competence; they need to be not only computer-conscious but computer-literate. By computer-literacy I understand that these social workers should know how to use a computer, where and when to use a computer, and are able to make it work in favour of social work and its clientele. They should by means of the computer applications courses acquire enough of the base to specialize in computer applications later on, after having graduated from social work education. They then should be able to help their agencies or institutions find a way

Computer Applications in Social Work Education...

through computer-involved social work. They might even qualify to join research activities in the computer applications and social work area.

Moreover, from a computer-literate graduate we can expect the ability to communicate and cooperate with the more technically-minded computer expert, though only in exceptional cases social work education as such will have the time and opportunity to give its students computer competence enough to develop their own programs. But the social worker should know what he can expect the computer expert to do for him; he should know how to display and formulate his own or his agency's demands on specific software, so that the expert can be enabled to write - in connection with the social worker - a suitable program.

Guideline B:
Integrational (anti-isolationist computer applications teaching

Taking for granted the variety of aspects which are of importance to social work, as shown above, the conclusion must be that computer applications in social work education must not be confined to the technical man-machine relationship: it must not be limited to the bare training of computer-using and programming. On the contrary, as computer issues touch nearly all the rest of the teaching subjects, this interaction in substance must lead to a corresponding organizational linkage. The computer courses must not degenerate to an island of isolated experts or computer freaks. What we need instead of isolation is computer applications integration into the whole range of subjects. This comprises firstly, *curriculum integration.* Computer applications should not become an obligatory subject, for the greater part of our students are highly motivated towards social problems, but have intentionally turned their backs on the technical and the commercial complex. Nobody will be happy if we tried to force them into computer applications, so we have got to convince and not compel them. In any event, compulsion would not be helpful for running computer courses at all.

On the other hand, completely optional, additional courses which cannot be part of an examination and do not lead to marks for certificates and diplomas will remain a kind of elitist appendage, and a rather costly one. The most desirable, the optimum solution, is in making computer applications one in a series of optional subjects which can be selected by the students to build into their course assessment.

Secondly, *institutional integration.* Computer applications should form a fully integrated element in a comprehensive concept of either media-teaching, statistics and social research, or social/welfare administration and management.

But the skilfully designed roof is likely to break down if not set upon a third pillar of personal integration. The full time teachers of computer applications courses should hold, besides their computer courses, classes in another more traditional, well-established subject. Only then can they continually keep in touch with students and be accepted and incorporated by the teaching staff as a community.

Professor Dr. Gruendger
teaches at the
Church School of Social
Work in Berlin

International Round Up

We have received Volume 2, numbers 1, 2 and 3 of *"Micropsych Network"*, subtitled *"The Psychology and Behavioural Science Newsletter"*. The issues are not dated, but the contents suggest 1985. The newsletters offer a mixture of articles, software reviews, some Basic programs, and chat, often about the state of micro-computer manufacturers in America. There is a bias towards IBM and Apple.

Micropsych Network is bi-monthly, and is published by Professional Resources Exchange, Inc.

The Editor and contact person is:

Lawrence G Ritt, POB 15560
Sarasota, FL 34277-1560
USA.

Bryan Glastonbury

CASW is always interested in receiving contributions to the International Round Up Page

Can Computers Do Social Work?

Victoria Weavers

Computer technology affects us all in our everyday lives. Computers are used in areas such as banking, airline ticket booking, traffic regulations and payroll records. However, despite the technology's advances, social workers display little interest in grasping its positive aspects or examining the negative elements. This is surprising since computers play an increasing part in the lives of the people we set out to help.

Background

Pressure and opportunity appear to have played a large part in the development of computer systems in social services departments, with careful design and reflection often some way behind. A careful, even cautious approach may well have been more appropriate.

There were four external factors which played their part in providing an impetus to computerisation in many local authorities. The first of these was the creation of social services departments, following the *Social Services Act 1970*, from the separate departments of the Children's, Health and Welfare and Mental Health Services, which resulted in the departments focusing their attention on administrative systems and procedures as part of the integration process.

A second impetus for computerisation came from the *Local Government Act 1974*, affecting the provision of all local government services, and the reorganisation and boundary changes that were associated with this. The introduction of new complexities into local authority systems led to the recognition of a need for a major overhaul of administrative systems and an option for an extension of computer use.

Another factor in the development of computers in the personal social services was central government restrictions on local government spending, which necessitated economic cutbacks including administrative costs, and major changes in policy. The departments' long-term plans were based on continued growth following an expansion of services and staff in the early 1970's. Departmental policy sought these savings through greater efficiency, which computers represented to many people, as opposed to any reduction in service provision.

Pressure and opportunity appear to have played a large part in the development of computer systems in social services departments, with careful design and reflection often some way behind.

New legislation, such as the *Chronically Sick and Disabled Persons Act 1970 and the 1975 Children Act*, resulted in increasing and changing responsibilities with concomitant needs, and the development of new administrative procedures such as keeping Child Abuse Registers. In some authorities computerisation was thus promoted further by the need for speedy, effective and efficient channels of communication, within and between social services offices. Demographic factors, such as the increase in numbers and proportion of the elderly in the population, also played a part, adding extra strain to the existing manual administrative systems and heightening competition for resources.

The LAMSAC Survey

A LAMSAC survey (1984) also identified some factors affecting computerisation of the personal social services that were specific to individual departments. Some Regional Health Authorities were willing to provide resources, including hardware and software, for the development of computerised mental handicap registers within their geographical boundaries. In other areas, local firms or voluntary bodies offered resources for particular applications such as learning aids for Training Centres, which provided an impetus for development. Some departments used "surplus" monies to buy equipment, for example where they had been allocated additional funds as a result of a rate increase following a local election, or where expenditure had fallen below the anticipated target for that financial year. These factors conjure up a picture of some social services departments undergoing computerisation in an almost "accidental" way.

Internal factors affecting the development of computer systems which the LAMSAC survey highlighted were departmental restructuring, changes in senior management personnel or their roles, and features of prevailing working practices and ideology.

It would seem clear that the seemingly "hotch-potch" development of computer systems in the personal social services can be traced back to the different development strategies adopted by the local authorities, of which there appear to have been three major approaches.

The *"ad hoc"* approach involved the development of one or more small applications for particular identified needs. This focus on a small client group as an introduction to computing gave the respective departments an opportunity to gain experience and assess potential before committing themselves fully. The *"modular"*

Can Computers Do Social Work?...

approach saw the development and implementation of a portion of the eventual complete system either for a reduced number of clients or with limited applications and resources at the initial stage. The *"holistic"* strategy involves development of the system as a whole, providing a global picture for the departments from the beginning.

It appears that the development of computer systems within social services departments has been somewhat opportunistic with a strong slant towards management uses in the initial stages. Most, maybe all, social service departments now have access to computer systems and the situation is the same in the probation service. However, they only appear to be using a small portion of the range of possible useful tasks. It seems, therefore, that access is one thing whilst use is another.

Social Work Attitudes

Social workers have tended to keep their distance from the potential applications of computer systems in their field, whether from lack of opportunity or motivation, and retained a staunch commitment to their traditional ways of working. Literature on this subject varies from great optimism about the potential benefits of the computer as "the next great turning-point which mankind is rapidly approaching" (Evans, 1979, p12) to outright alarm about current trends developing 'a monstrous system of "total administration" that cancels out man, not through terror and brutal authoritarianism, but through gradual subjugation' (Gruber, 1974, p625).

It seems that useful applications of computers need arguing and demonstrating, with a *prima facie* case *against* rather than *for* computing, in that the idea of using a computer in social work practice does seem to interfere with the client-worker relationship, with a risk of depersonalisation. Social workers have therefore had difficulty in contemplating the incorporation of computers in the social work task and have taken up wider issues of confidentiality and clients' rights to defend their position. Tutt (1983) points out that social workers appear to be using their genuine concerns as grounds for digging in their toes and showing more comprehensive resistance towards computers. As far as the view of the 'dehumanising' computer is concerned, this is more likely to become a reality if social workers continue to keep computers at arm's length and restrict their involvement to the task of feeding data into management information systems. Alternatively, if it were possible to create increased demands for specific practice uses, computers could offer potential for improving the quality of the service offered and even, at time make it more individual, as has been found in the development of Welfare Rights programs.

Social workers have tended to keep their distance from the potential applications of computer systems

With reference to the possible interference by computers in the client-worker relationship, it could be argued that this need not necessarily be the case, for although each client is unique and their respective case-file is different in content, the structure will be predictably similar to others.

The worker may have encountered a similar predicament before, and thus have a precedent, well-used theory or just a habit for what procedures to adopt in these sorts of situations. It could be argued therefore, that our traditional commitment in social work practice to the uniqueness of the client and their relationship with the worker represents a generalisation which could be usefully analysed to establish exactly what is and is not unique, thereby establishing a role for the computer.

Confidentiality

Confidentiality is an issue which concerns all involved with the developments of formal information systems. The wide-ranging controversy surrounding the concept of 'information pollution' (George, 1977) and the abuse of personal data is too extensive to be adequately discussed within the confines of my focus and therefore, discussion will be limited to the aspects of this particular issue that are relevant to social work practice. Essentially, this is concerned with uses of the computer which invade individual privacy and threaten civil rights, and so affect the principle of collecting this kind of data, the ways in which it is stored, the extent to which it is available to others, and how it is used. This is an area where social workers' fears are fully aroused, because an integral part of the social work task is the collection of personal data. Social workers are faced with a conflict of interests with issues of accountability, control and centralisation from the viewpoint of their managers and the agency on the one hand and on the other, concerns for privacy, confidentiality and respect for individuals from the view-point of their clients.

From a *technical* perspective, these aspects of security within the agency have been largely overcome, although security in the links between computers is still comparatively weak. The values of confidentiality and privacy are not embodied in the old ways of working, where individuals' files might be left in

Can Computers Do Social Work?...

unguarded offices in open filing cabinets. The use of security code words to protect data can establish more, not less confidential and private information systems than currently operate in social services departments.

In view of the fact that the forward march of computers is inevitable and no canutish action will stop it, social workers are going to have to know something about what computers can and cannot do, as well as being encouraged and enabled to become users. Despite the advent of less obscure languages which make programming easier for the layman, the task of writing and debugging a program remains too specialised and time-consuming for a social worker to tackle. However, if the program is to do its job correctly, the relationship between the programmer and the user is crucially important. The problem of jargon on both sides still needs to be tackled and solved, with the search for a common basis of communication remaining a challenge at the present time. In summary, what is required is a commitment to professional self-education, requiring the sacrifice of valuable time and energy.

The common view that numeracy is essential in using a computer is not actually substantiated on closer inspection of the facts - numeracy or mathematical knowledge have relevance as aids to better understanding of the background to computers but are not essential. For a user, the most beneficial skill to be acquired is a proficient typing skill, especially given the hard work required to develop from a two-fingered amateur into a competent keyboard operator.

The Future

General developments in the field of computing have made computers more accessible to social services departments, especially the increased availabililty of low-cost, computer systems. Unfortunately, local authorities are not necessarily proficient at getting the best value for money in their computer purchasing because they tend to have long-standing relationships with traditional computer manufacturers and suppliers whose equipment may not be competitive compared with equivalents from other companies.

For any serious extension of computing into social work, a keyboard and screen would need to be as accessible as a telephone to front-line workers and each team would need a printer (ie. a terminal or micro-computer for each social worker), otherwise the advantage of convenience would ensure that traditional methods survive, with occasional computer input when accessible. Advantages of being 'on-line' and having immediate access are relevant to front-line activity with its component of emergencies, clients in the waiting room and demands for immediate advice, information and aid.

The values of confidentiality and privacy are not embodied in the old ways of working, where files might be left in unguarded offices in open filing cabinets

In view of the major resource implications of all this, the attitude of management in the personal social services will be crucial to the future of computing in social work practice. Social workers have traditionally received little capital investment to support their activities, so it would require strong and effective arguments from managements to their committees in order to obtain their approval for a change. These arguments would almost certainly need to include expectations of greater productivity in order to impress them.

Expenditure would be incurred both through running costs and capital expenditure, representing a diversion of resources away from other activities. Once into the realms of expensive and sophisticated hardware, there is a possibility that funds to finance this development might be drawn from the service sectors. Is the price of computer development going to be too high in terms of the sacrifice of social workers, home helps, places in residential care or in-service training courses? There is certainly little indication as yet that agencies have looked beyond the attractiveness and utility of the tasks computers can undertake, into a more rigorous cost-benefit analysis, except to compare computing with traditional manual systems.

Home computers represent an effective and growing opportunity for social workers to acclimatise to the joys of computing, if only to compete with their computer-fluent children. This will inevitably be reinforced by the extent to which other professionals, ie. doctors, solicitors and teachers, are incorporating computer processes into their own activities so that, in a few years' time, it will be considered unusual and unprogressive for social work offices not to have computing facilities.

In response to the original question posed, "Can computers do social work?" (Abels, 1972), it would seem that they will inevitably feature in the lives of everyone more significantly in years to come. It is inconceivable, however, that computers will ever completely replace 'real people' because social work

Can Computers Do Social Work?...

practice involves perceptiveness and sensitivity which a computer could never attain. Nevertheless, they represent a challenging opportunity to develop a more efficient and beneficial service to the client, if we are discriminating in the way we use them.

It is doubtful whether computers will have a smooth course into social work practice, and now is perhaps the time to anticipate potential problems and search for possible solutions. If we can determine some of the criteria for using computers in our work and develop a system of values for their use, computers themselves may be able to help us decide when to use 'real people'. Machines need not necessarily be depersonalising and irrelevant to the social work task but can in fact be useful aids. Social workers tend to reject aggregated data as irrelevant because their training is based on individual need. Yet, there is an increasing demand for accountability and evaluation which can only be met by more systematic monitoring, probably with the aid of micro-computers.

It is inconceivable, however, that computers will ever completely replace 'real people' because social work practice involves perceptiveness and sensitivity which a computer could never attain.

Social workers have a vital role to play in influencing policies and decisions about the appropriate time for implementation and the ways in which this should be done. "Computer applications if left solely to managers will primarily serve the needs of managers. If the applications are to become a tool for caseworkers, caseworkers must become involved in the agency's computerisation efforts from the beginning". (Schoech and Schkade, 1980, p573).

References

ABELS, P.
'Can computers do social work?':
SOCIAL WORK 17
(September, 1972).

EVANS, C.
The Mighty Micro'
Coronet, 1980.

GEORGE, F. H.
'Machine Takeover':
Pergamon, 1977.

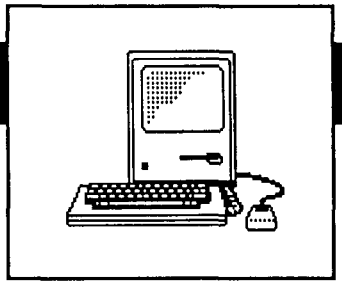
GRUBER, M.
Total Administration':
SOCIAL WORK 19 (September, 1974).

LAMSAC:
'Survey of Local Authority Social Services Computer Applications', 1984.

SCHOECH, D. and SCHKADE, L. L. *'Computers helping Caseworkers'*:
CHILD WELFARE vol.59, no.9: (1980).

TUTT, N.
'Report of speech to Age Concern Conference':
COMMUNITY CARE (10.2.83)

Victoria Weavers is a social worker in Warley Psychiatric Hospital, Brentford



Do you use the Macintosh?

Ian Chapman, from Dorset Institute of Higher Education, is in the process of establishing a User Group for those in the Social Work World who use the *Apple Macintosh* computer system.

There is no doubt that the Mac is an extremely versatile and user friendly machine which is being increasingly used in the provision of human services. Ian is particularly interested in using the Mac to aid clients assess themselves, using databases to help with the evaluation of services, to manage files and prepare reports, etc.

Ian hopes that Mac users will have generated a whole range of applications which they may be prepared to share (or at least to talk about!) with their fellow professionals.

Anyone interested in developing the user club idea with Ian is invited to drop him a line (or a disk which will be returned) to:

Ian Chapman
Dorset Institute of Higher Education
Dept. of Nursing and Social Service
Wallisdown
Poole
Dorset

AVAILABLE NOW!

The "one stop" handbook for social workers

Social Work & Mental Disorder

A practical Guide for Social Workers
by David Beech, author of "Mental Illness and the Social Worker"

David Beech has already shown how he can help social workers make sense of this very difficult area. His first book, *"Mental Illness and the Social Worker"*, was a runaway success, praised for its simplicity of style, clarity of detail and usefulness in practice. Now he has produced for social workers **easily the most comprehensive guide currently available**–and he has retained the simplicity, clarity and usefulness.

Consider the contents: descriptions of mental disorder, models of mental illness, guidance for the social worker in working with disordered clients, social work with schizophrenics, psychopathy, the legal context, the role of the courts and local authorities, admissions to hospital, consent to treatment, the roles and functions of the Approved Social Worker, the rights of the patient and of the nearest relative, mental health review tribunals, the Mental Health Act Commissions, medication, etc.

£5.00
inclusive of postage

SERVING THE SECOND SENTENCE A guide for the wives and families of prisoners by Dave J. Hardwick	£4.50
LONG TERM UNEMPLOYMENT by Willie More & Andrew Howell	£5.00
COPING WITH LOSS by Roy V. Lascelles	£4.00
SUICIDE PREVENTION by Phillip J. Vaughan	£4.00
THE LAW SAYS by Harry Tunnicliffe	£6.50
COURT WORK by Colin Fishwick	£6.00
SNIFFING SOLVENTS by Eve Merrill	£4.50
CUSTODIANSHIP by Harry Tunnicliffe	£1.50
PRISONERS & THE WELFARE STATE by Elizabeth Lancaster	£4.00
TEENAGE PREGNANCY by Alexandra Menezes Cunningham	£4.00

Please send orders together with a cheque or postal order to:

PEPAR Publications,
50 Knightlow Road,
Birmingham B17 8QB.

PEPAR Publications

HUSITA '87

A Technology to Support Humanity

7th - 11th September 1987

The CASW Editorial Group, the Computer Applications in Social Services Network and the Computers in Human Services Editorial Board are proud to announce the First International Conference on Information Technology Applications in the Human Services, or *HUSITA*, to be held in Birmingham, England in September 1987.

Background

Human Services throughout the world are utilising new forms of information technology in their work. The conference will promote presentations which describe, define, share, and evaluate the ways that these technologies are, being and can be used.

HUSITA '87 will provide a forum in which those involved in providing Human Services can gather to: examine and share applications, while also reassessing our knowledge and experience in relation to major issues such as the need to create ethical frameworks, the change in the work situation, the impact of I.T. upon the individual and ask can computers power social change by providing power to the powerless?

The conference will have a relevance for social workers, psychologists, social planners, the rehabilitation professionals, community workers & educators, etc.

Conference Presentations

Share and Discuss
Presentation in this area will be organised as small groups, seminars, and any other presentation formats suitable to informal discussion and sharing of the author's material.

Listen and Learn
Presentation in this area will be organised as workshops, lectures, and in other presentation format suitable to formal delivery of the author's material.

The Fair
Vendors, software developers and enthusiasts from a number of participating countries will demonstrate their products. The largest collection of free software and demonstration programs in the world (over 1000 disks worth) will be available for copying at a low cost.

Presentations are welcome from (but not limited to) the following areas:

• Use • Problems • Experiences • Directions • Choosing Systems • Finding Software
• Worker Use • Empowerment • Community Change • Administration • Computer Literacy
• Privacy • Gender Differences • Networking • Self-Help Groups • Testing • Client Assessment
• Client Evaluation • Accountability • Computer Program Development • Prototyping
• Creating an Information Centre • Developing Information Resources • Data Base Design
• Expert Systems • Knowledge Engineering • Research •

For Further Details of HUSITA '87, Contact:

Stuart Toole
c/o City of Birmingham Polytechnic
Dept. of Sociology & Applied
Social Studies
Birmingham B42 2SU
England
TEL 021 356 6911 (Ext. 303/301)

Walter LaMendola
University of Denver
Graduate School of Social Work
Denver
Colorado
U.S.A
TEL 303 871 2915

Academic Sponsors for HUSITA '87 are:
The City Of Birmingham Polytechnic and the University of Denver