Editor’s Column
(Susan Small)

There are two pieces from Mick Farmer in this issue, the first giving you an up-date on services provided by the UKUUG and the second giving a first-hand account of radical upheavals in EurOpen which have resulted in new responsibilities for him.

Lindsay Marshall, who was elected to the Council last year, has supplied his own Pass Notes. Lindsay’s portfolio for the Group is to steer and encourage LUGs and SIGs and he has put forward his ideas on how we can usefully create effective groups.

Anyone involved in software development will be interested in the report by Alan Bundy on the new UK copyright law which came into effect last month.

Rob Kling and Lisa Covi have kindly agreed to the inclusion of their review of *Connections* by Sproull and Kiesler which first appeared in The Information Society, Journal 9(1) (Jan-Feb 1993).

Alan Chantler of the School of Mathematical and Information Sciences at Coventry University have provided us with a report of the UKUUG/SUKUG joint meeting in Oxford.

I am very happy to receive unsolicited articles which can be sent to me by e-mail, post, telephone or fax. Contact addresses for people or organisations mentioned can be found on the back page.

Advertisements consisting of 2-3 column inches will be accepted from members at no cost. However, if you wish to insert an A4 flier for dispatch with the Newsletter this will cost £100. Full details of this service can be obtained from the UKUUG Secretariat.

Deadline: 19 March
Publication: April

Deadline: 19 May
Publication: June

Deadline: 19 July
Publication: August

Deadline: 19 September
Publication: October

Deadline: 19 November
Publication: December
UKUUG News

Report from the Chair
(Mick Farmer)

Was this copy of our newsletter that you’re reading addressed to you? If not, why not ask your institutional representative (if you can track them down :) for additional copies to be posted to your organisation. No catch; no hidden extras. We want more people to read our newsletter, and what better way is there than sending multiple copies to one address for distribution internally. If you are the institutional representative, then contact our Secretariat at Owles Hall and tell them how many copies of this newsletter you’d like sent to you (within reason, naturally) and we’ll try and oblige.

This is just one of the additional services that we’re bringing to you, our membership in 1993. We’ve kept subscriptions at the same level for three years now and, by being careful with the money (it helps to have a Scottish treasurer, in spite of the name), we intend to offer additional services, or improved existing ones, over the next few years.

Elsewhere in this issue you’ll find articles by Lindsay Marshall, our Council member co-ordinating LUG and SIG activity, together with information from those LUGs and SIGs getting themselves organised. Are you interested in what they say? If so, don’t just sit back and assume that these groups continue to exist automatically. They need people to go to events, to suggest topics of interest, to just register an interest. If these groups don’t interest you, then what does? Contact Lindsay and tell him that you desperately desire local meetings in a particular part of the UK, or that you have this burning passion that is currently unfulfilled by the UKUUG. He may suggest that you start organising something, but isn’t that the exciting part?

If you were lucky enough to open the envelope containing this newsletter, you’d have noticed that it was heavier and fatter than normal. That’s because we included a copy of the proceedings of our Winter meeting, held in conjunction with the Sun UK User Group (SUKUG) in Oxford at the beginning of January. Although Alan Chantler has provided an excellent conference report elsewhere in this issue, we’ve decided to provide all conference proceedings free to members from now on. This doesn’t mean that you can stop coming to our conferences and workshops! There’s really no substitute for being there, talking to people who were just names before, drinking the endless supply of coffee, exploring the exhibition, drinking more coffee, chatting to Bill and your Council about this and that, ... You get the idea. However, at the moment we can’t start sending out multiple copies of the proceedings. Sorry.

In this column in the last newsletter, I said that we’d arranged with USENIX for you to receive a year’s subscription to their publication Computer Systems. They publish this four times a year and the first issue is currently in transit. You’ll receive this with your next newsletter, the April issue.

Finally, can I remind you that our next AGM will be held on 18 March at 6.30pm, preceding the London LUG meeting.
Please come along, stay for the LUG meeting if you can, but most importantly, show your support for the UKUUG.

Must sign off now, the airplane is starting to accelerate along the runway (God, is the Gatwick tarmac that short!) and the steward wants the laptop stowed under the seat. USENIX in San Diego here I come (and you thought Suniling was dead :-).

Report from Councillor

Pass Notes
No. 42 Lindsay Marshall

Age: 40

Appearance: Aging Hippy.

Background: Edinburgh, then Newcastle. Worked in Computer Aided Ship Design to put off finishing PhD (error recovery in concurrent processes). Back to academia and writing the Newcastle Connection. Pottering around Distributed systems ever since.

Characteristics: Wears red shoes. Tries hard to suffer fools gladly but gives up too easily. Loud. Opinionated. Would wear green shoes if he could get them.


Current Obsessions (Non-Technical): Mountain Bikes, Conjuring, Keeping a Devil Stick off the ground long enough to spin it at least once, Watercolour painting.

Best paper title: A la recherche du /tmp perdu.

Favourite versions of UNIX: 7 and 8.

Least favourite version of UNIX: all of them except V7 and V8.

Favourite UNIX program: ed.

UKUUG hat: LUGs and SIGs.

Least likely to say: Let me explain that to you in simple terms.

LUGs, SIGs and Other Alien Lifeforms
Lindsay F. Marshall

It is not so long ago that the UKUUG itself was really just the local user group for people who lived in the UK. The UNIX community was small and everyone knew everyone else, and, most importantly, was usually prepared to help out with their own particular esoteric knowledge when someone else needed it. The present proliferation of UNIX systems means that this world has gone, at least until another system comes along leaving a hard core of reactionaries who will not move on!

Also gone to a large extent is the free exchange of ideas - UNIX help is worth money so tips and wrinkles don’t get passed around like they once were. This is unfortunate because in many cases shiny new workstations appear in offices, and the expectation is that people will just get on with using them. Generally they do, because they plug in and play with the application software they bought it for, but when things go wrong help is often not round the corner.

Even when things go smoothly, re-invented wheels keep appearing. This is where LUGs and SIGs come into their own. They can start once again to build up the network of friendship and information
LUGs can hold meetings far more frequently (and cheaply) than there can be national events; so users in one part of the country can get to know each other and get to know who can help out with a word of advice on particular topics. Of course, I'm not suggesting that we try to cut out the consultants, but good advice can often direct a business to the right consultant and save needless waste of time and money. Very often new users won't even know about the existence of the UKUUG and their LUG and the help it can provide; so it is undoubtedly worth trying to spread the word.

The technical talks given at many LUG meetings also provide an introduction to important areas that many people know little about. However, getting speakers for these is always hard - I know because I keep promising to go and give talks and then find I can't schedule them - and I would like to start a register of people prepared to give talks. So if you have expertise in a particular area which you would be prepared to speak on, please get in touch with me telling me details of what you could talk about, how far you can travel etc. I can then pass this list on to LUG organisers and we shall see how things progress from there. And the more the merrier - there is nothing harder than trying to put together a year's programme of interesting meetings. Also contact me if you want to start your own LUG. The more the merrier here too.

Special Interest groups can also work in a similar way, though they are naturally more national in their orientation. However, there are already many SIGs run by other groups and by manufacturers for specific technical areas, programs and machines and it would be silly to try to duplicate these. UKUUG SIGs could perhaps be more oriented towards particular business areas - local authority UNIX users, for example, or UNIX users in banking. Let me know if you are interested in setting up a SIG and I will see what can be done to get it off the ground.

Another new kind of group is the Special Technical Group. USENIX have just announced the formation of their first group which will be devoted to System Administration. These groups seem to be rather more far reaching than SIGs as they seem to be geared towards issues of standardisation, training and professionalism rather than technical matters. Whilst this may seem rather grandiose (and to tread on an impressively large number of toes all at once!) I think that the idea is sound. It is likely that we will try to organise something for System Administration probably using the UK LISA meeting as jumping off point. So if you are interested in that, or have suggestions for other areas that might benefit from a STG get in touch.

**Cambridge LUG**  
(Piete Brooks)

The Cambridge Sukug is holding its next meeting on **Wednesday 10 March 1993**. The venue and speaker have yet to be arranged, but UKUUG members are warmly invited to attend the meeting.

If you wish to attend this meeting, or be kept informed of future meetings, e-mail cam-sug-request@cl.cam.ac.uk asking to be added to the distribution list.
For details of the February 1993 LUG please contact Andrew Findlay direct. The March LUG will be held on Thursday 18 March 1993, following the UKUUG AGM. Refreshments will be available from 6pm, the AGM will take place at 6.30pm and the LUG meeting will start at approximately 7pm. The official announcement, including venue, should be advertised on a flier in this issue. If you haven't received this, please contact Bill Barrett at the Owles Hall Secretariat.

As tradition dictates, post-meeting discussions take place in the Fitzroy Tavern (Charlotte Street) at approximately 8pm.

Oxford LUG (Charles Curran)

At the recent UKUUG/SUKUG joint meeting in Oxford, local members discussed the formation of a LUG. It was agreed to hold an initial meeting on Thursday 11 February and anyone interested in attending, or suggesting topics for discussion should contact Charles Curran.

PC SIG (Charles Atkinson)

There's an awful lot happening in the Unix universe at the moment and much of it is in the PC department. Rapid changes have created an unstable situation. You would need a very clear crystal ball to predict what the architecture, system and vendor mix will be even three years from now.

This state of flux gives users a rare opportunity to influence the future, partly by voting with their money and partly by making their (our) voices heard. Vendor's ears are surprisingly receptive at the moment - they know they need market share for credibility and viability. They know that it will come from giving the users what they want.

The UKUUG PC-SIG can serve users and vendors alike by providing a forum for exchange of views. Do e-mail me with any remarks you would like to put to PC Unix vendors. I will collate them, put them to the vendors and report back in this column. Equally, if you are a vendor and would like to seek the views of users then this column can provide a channel.

And now the time has come to speak of many things, of why PC Unix has to be taken seriously, of PC-SIG events, of why a changing market could change UKUUG. Cabbages and Kings on page 47.

Take it seriously?

Until fairly recently there was a maxim in the IT industry that users would absorb as much new technology as their budgets would allow. It was true - the task in hand would be better addressed with the next model up, the next release of the software, next year’s processor. But phenomenal increases in power and sophistication, matched only by phenomenal decreases in cost have resulted in a new situation. The user can afford the right tool for the job. It is a hard to sell anything better. Buyers are beginning to ask "How will anything better improve my profitability?". And, in
many cases, it won’t.

This has been particularly true in the world of IBM compatible and derivative PCs where so many factors came together to create an almost ideal free market. Let’s start with the architecture; adequate and dirt cheap (that’s not an insult, that’s an ideal of engineering design). Then add the credibility IBM had 10 years ago and open standards in both hardware and software.

As we all know, this did rather backfire on poor old Big Blue. Corporates looked at the difference in cost between a genuine IBM PC and a third party product, translated the difference into the mainframe budget and were appalled. Meanwhile PCs made computing affordable for small businesses and a massive new market appeared. This market now wants more than DOS can give it.

The end result is:

- a surplus of affordable hardware power in PCs.
- an enormous installed base of PCs and people who feel comfortable with them.
- a great distrust of vendor lock-in.
- a move toward something better than DOS.

One response to this situation is a move to Unix on a PC hardware platform. Sun and, more recently, Novell seem to have come to similar conclusions. One from a Unix background, one from a PC background. The clout that these two organisations can bring to the previously fairly easy going PC Unix market is going to mean a lot more competition. That could be bad news for some of the smaller players but good news for Unix in general.

The battle for desktop computing is warming up and PC Unix is at the centre of it. The fray also features DOS/Windows, Windows NT and OS/2 but that is another and very long story.

So, what is PC Unix and how does it relate to other Unices?

Contrary to popular belief it is not a cut-down Unix. The misunderstanding may have arisen from success of Xenix, Minix, Coherent and Linux. All are cut-down Unices. Xenix, pioneered by Microsoft, was derived from AT&T V7 to suit Intel 80286 based PCs. It had a parallel development with mainstream Unices, originating some features adopted by the others. Its raison d’être expired with the introduction of the 80386 chip. Minix was created to support an operating system course. Coherent is cheap and very good value. Linux was, astoundingly, a student’s personal project and is free.

Leaving aside specialist real-time versions the rest of the PC Unices are the real thing. There are essentially three source code origins - AT&T (now USL), BSD and OSF. None of these supply software directly to the end purchaser. The net archives, pc-unix/software and pc-unix/hardware, tended by Eric S Raymond, are excellent references on current products. These can be made available to PC-SIG members without net access.

AT&T dominates, licensing source code to at least nine third parties who ‘add value’ and sell on. As mentioned in this column in the last news@uk, the two biggest players, SCO and SunSoft (Interactive) are based on System V/386 Release 3.2. Both incorporate extensions and add-ons, SCO more so. Many of these anticipate Release
4. It is easy to decry such deviance from standards but both have done a great deal to put a user- and system administrator-friendly face on PC Unix. SunSoft will be moving to Release 4 with Solaris. It is not clear why SCO have been so reluctant to move on but their position will become increasingly untenable if they do not. Not because their systems will not do the job but because users are wary of an 'open' system that becomes more proprietary with every upgrade.

Other USL based products come from Consensys, Dell, Esix, ICL, Microurport, UHC and Univel. These are all Release 4.0 or later. Dell and ICL sell Unix with their hardware.

BSD is present in two forms. BSD 386 is free, has an enthusiastic following and is close to maturity. As far as I know, which is not very far. If any reader has experience of it and would like to let the rest of us know then please let me know (if you're shy about your speaking or writing, we can get around that). The other BSD is BSDI which is largely based on free software, has been well received in extensive testing and retails for the price others charge for an upgrade. Or at least it would if AT&T (USL?) were not holding up release as part of alleged copyright infringement proceedings. A hearing is scheduled which may have changed the situation by the time you read these words.

OSF operates a source code licensing arrangement similar to USL's but no one has taken them up on it yet. Still, the option is there and SCO are not discounting them as a next step from Release 3.2.

OK, that's the State of the Union Address to explain why PC Unix is so important and where it is now. Those of you running bigger machines, embedded systems, and very high end workstations will be affected by the battle for the desktop because it is such a large market; the development, cost and even survival of operating systems has been shown to depend on achieving and maintaining a critical mass. And that critical mass is becoming bigger as operating systems become larger and more complex.

PC-SIG Events

Now that you have registered interests in the PC-SIG I have started to plan some events to address those interests, wide though they are! At this stage nothing is firm enough to announce, but plans are around what a User Group can do best - learn from each other's experience and dialogue with suppliers. So, if you have not yet come forward and have a tale to tell or a particular interest, now is your chance to influence the planning process.

Changing UKUUG?

Conversations with a variety of people have shown that the increasing commercial application of Unix has changed the 'average' user — this is probably accentuated for PC platforms. Whereas the historical emphasis has been on researchers and product developers there are now increasing numbers of corporate IT departments, VARs and small businesses using Unix. Does the UKUUG address the needs of these people? I suspect that its current identity, half way between a learned society and a college fraternity, is not what they are looking for. Time for a revamp?
Copyright Laws
(Alan Bundy)

In May 1991 the European Community turned its attention to the copyright laws of member states as they affect computer programs. It was felt that the laws in different countries were too disparate and needed to be homogenised. After a debate in the European Parliament the Council issued a Directive on the "Legal Protection of Computer Programs". EC member states were required to transpose this Directive into law by January 1993.

The new UK copyright law to meet the European Directive has now been passed by Parliament and came in to force on 1 January 1993. It is called "The Copyright (Computer Programs) Regulations 1992". It consists of amendments to the earlier "Copyright, Designs and Patents Act 1988", without reference to which it is impossible to understand.

The Edinburgh Computing and Social Responsibility Group (ECSR) was concerned about the European Directive because of a fear that it might move European law in the direction recently taken by US software copyright law. In particular, we feared that it might make possible "look and feel" disputes, in which software vendors claimed copyright in the interfaces of their programs. This issue was debated in the European Parliament, but not resolved there; the Directive was left ambiguous. It was left to member states to resolve this ambiguity in their local laws. So the debate shifted to each member state.

ECSR wrote a number of letters to UK Government Ministers, but got a lukewarm response. Eventually we obtained a copy of the draft UK law and submitted an official submission to the UK Patent Office, who were responsible for drafting it. We found that the draft law did not address the interface issue at all. We argued that it was required to by the European Directive and argued for the exclusion of "look and feel" copyright.

The main concern of the draft UK law was to restrict the reverse engineering of commercial software and the development and marketing of look-alike systems. Unfortunately, this was not well done. For instance, the draft law restricted the decompilation of programs, but "decompilation" was defined in a way that appeared to cover any kind of translation between languages. The definition was also totally confused. The rights of researchers to copy or translate software in order to understand how it worked was removed. It also seemed as if legitimate users would be prevented from compiling source code in order to run programs.

ECSR was interested to see to what extent its advice had been heeded, so we have obtained a copy of the new law and analysed it. There is some Good News and some Bad News. The Bad News is that the UK law contains nothing on interfaces. The UK Patent Office maintain that the European Directive does not require them to say anything about this. They have obviously rejected the ECSR argument to the contrary.

The Good News is that they seem to have taken into account two of ECSR's other points and made suitable amendments.

- The wide-ranging and confused definition of "decompilation" has been dropped and the law now only restricts the translation from low level to high languages. There is
also a specific provision that any device can be used to observe, study or test a program in order to understand its ideas and principles. These changes seem to meet our worries about restrictions on computer research.

- It is made legal to copy or adapt a program if this is necessary for its lawful use. This meets our worry about the unintentional ban on compilation during use.

So ECSR can take some credit for some positive influence on this law, avoiding some of its sillier problems. The wider issue of "look and feel" remains unresolved in the UK and awaits some test cases.

[As an aside it has been interesting for an outsider to view the methodology of law-making. When an unintended side-effect of a regulation is uncovered, rather than correct it in situ, these drafters prefer to introduce a new regulation which corrects the earlier one in this case. One, therefore, ends up with a patchwork of contradictory regulations with the later ones (I assume) overriding the earlier. I know what I would say to a CS student who programmed in this style :-) ]

DTI Open Systems Programme
(Susan Small)

As reported in the last issue, the Group has been co-operating with the DTI in the setting up of their Open Systems Initiative.

The first step was to prepare an Interest Group Register. Although this was a straightforward task, the resulting document gives a wide view of the many and various groups which are involved in Open Systems. These groups have been added to the circulation list of this Newsletter in order to disseminate information and extend knowledge of what the UKUUG is doing.

The brokerage service, which is the next step, is seen as a means of imparting impartial advice to companies wishing to design and implement an open systems strategy.

Mick Farmer has had discussions with the Chair of the Sun UK User Group, Elwyn Davies, together with Helen Gibbons and Bill Barrett of Owles Hall, as to how best to take the matter forward. They have agreed that the Secretariat can usefully work on behalf of both Groups in this matter. However, it would be necessary for members who wished to be involved to indicate their interest and other points, such as funding, would need to be dealt with satisfactorily.

The Brokerage Service (its working name) would be owned and operated by the various interest groups, assisted by the DTI who would be involved in promoting the service.

Information about the UKUUG and SUKUG has been provided to the DTI and the next step would be for them to assist the user groups in discussing the practicability and implementation of the scheme.

Watch this space for further details.

Around Europe

Whither EurOpen?
(Mick Farmer, EurOpen Executive)

This document represents my personal views concerning the current status of
EurOpen. Where necessary, I’ve used a historical perspective to explain a particular situation, and why it came about. Some thoughts on the future are included.

**The Storm Clouds Gather**

EurOpen’s current position is a direct consequence of the fact that large groups, through their financial contributions to EurOpen, can influence the work and directions of EurOpen.

In my view, the first signs of unease occurred when the Executive Committee of the European UNIX User Group (EUUG), EurOpen’s predecessor, decided that the group should embrace the emerging movement towards open systems. The Governing Board meeting in Nice in October 1990 endorsed the decision. Two immediate consequences of this decision were:

- A change of name to EurOpen, emphasising open systems within Europe. The adopted byline underlined this — "The European Forum for Open Systems".
- Adoption of a uniform "house style" for all printed material, including conference proceedings, newsletter, etc.

Although the change of name was accepted reasonably well, the new house style was criticised by many people (including myself) and has only recently undergone a further "rationalisation".

These drastic changes triggered a feeling within the Governing Board (i.e. the national groups) that the Executive Committee weren’t taking sufficient notice of what the Governing Board wanted. This led ultimately to a new set of by-laws for EurOpen stating categorically that:

- The Governing Board was the supreme body within EurOpen.
- The Executive Committee was the interface between the Governing Board and the professionals working for EurOpen.
- The Executive Committee consisted of people elected by the Governing Board for a specified period of office.

By now, EurOpen was growing, both with new groups joining, and an increase in European activity. The Executive Committee (all unpaid volunteers) now had the services of an Executive Director who took over some of their workload, especially organising the pan-European event, OpenForum ’92 (jointly with UniForum and Jaarsberg).

**The Tempest**

As well as organising OpenForum ’92, the Executive Director also undertook a review of the newsletter and instigated a move of EurOpen’s headquarters from Owles Hall (England) to Brussels (Belgium). In my view, the Executive Director handled both of these actions extremely badly. The fact that OpenForum ’92 was a flop meant that the Governing Board meeting in Utrecht in November 1992 was indeed going to be stormy.

At this meeting it became clear that a number of groups (including the UKUUG) were unhappy with the outcome of these events, namely:

- The newsletter editor had been
The secretariat (Owles Hall) had been given notice.

The move to Brussels was underway, before the Governing Board had approved the decision.

The Governing Board had been misled over the number of attendees at OpenForum '92.

There was an additional feeling that money was being spent without proper controls and without the knowledge of the Governing Board. At this point, both AFUU (France) and DKUUG (Denmark) stated that their group would not pay the subscription due for 1993, because they had no confidence in the Executive Committee and the Executive Director. This meant that EurOpen would be bankrupt in 1993.

EuroCheap

At this point, the Executive Committee presented some hastily thrown together proposals for the future. I agreed to chair the brainstorming session based on one of these, a scaled-down EurOpen, without an Executive Director. The result of 30-40 minutes frantic activity was:

- National groups pay a flat fee to EurOpen for membership. EurOpen is now a federation of national groups, not the members of those national groups.

- EurOpen offers a minimal set of services to the national groups based on this fee, e.g. a news sheet containing information from the national groups about their activities.

- Additional services may be purchased from EurOpen, e.g. a newsletter.

- EurOpen ceases to organise conferences on its own, but works in conjunction with a national group to organise a joint event. This can rotate throughout Europe.

I presented this proposal to the Governing Board under the heading "EuroCheap" and it was approved.

Fees have always been a bone of contention within EurOpen. Originally, fees were based on the membership of the national group, so large groups saw large sums of money going into EurOpen's coffers, and not their own. Therefore, if a large group didn't like the projects on which EurOpen was spending money, they felt terribly aggrieved (and sometimes showed it :-)). The flat-rate proposal met with the approval of most national groups (especially AFUU and DKUUG) because it meant a reduction in their subscription. The other points above all stem from this, EurOpen now has to do things much more cheaply.

At this point, the Executive decided to hold elections for the Executive Committee (going against the new by-laws, naturally) with the result that Georges Schild (CHUUG), Kim Biel-Nielsen (DKUUG), Marten van Gelderen (NLUUG), and myself (UKUUG) were elected. Georges Schild was then elected Chair. Thus the people involved in conjuring EuroCheap out of thin air were mandated by the Governing Board to implement it!
The Dust Sets

The interim Executive, as they like to be known, intend to put forward the necessary proposals to the next Governing Board meeting, scheduled for May 1993. At this meeting, the intention is to vote in a new Executive Board who will lead EurOpen along its chosen path.

International Free Software Conference (Development and Deployment), 19-23 April 1993, Moscow, Russia

Conference announcement and call for papers

A conference on Free Software will be held 19-23 April 1993 at the International Center for Scientific and Technical Information in Moscow, Russia. The conference is hosted by SUUG, the Society of Unix User Groups (formerly the Soviet Unix Users Group), the Russian Center for Systems Programming (responsible for free software development and distribution in Russia), and the International Center for Scientific and Technical Information.

Participant specialists are coming from North America, Europe, Japan, and the Newly Independent States (NIS). Richard Stallman, founder of the Free Software Foundation and recipient of the ACM Admiral Grace Hopper Award and the MacArthur Fellowship, will attend the conference as Guest of Honor.

The main topics of the conference include:

- user experiences with free software;
- free software in education and training;
- legal aspects of free software;
- relevance of free software to NIS modernization and democracy;
- how NIS scientists can contribute to free software.

Concurrent with the conference, there will be a small exhibition demonstrating free software in a networked heterogeneous environment.

The conference encourages submissions of original designs, papers and ideas, and it welcomes the participation of computer and software companies.

Program Committee

Jaap Akkerhuis, AT&T Bell Labs, USA
Peter Brusilovsky, ICSTI, Russia
Mick Farmer, Birkbeck College, UK
Jean-Michel Cornu, Jean-Michel Cornu Consultant, France
Judith Grass, AT&T Bell Labs, USA
Geoffrey S. Knauth, Marble Associates, Inc, USA
Sergei Kuznetsov, Institute for Problems of Cybernetics, Russia (chair)
Christoph Reisbeck, Sun Microsystems GmbH, Germany
John Stasko, Georgia Institute of Technology, USA
Michael Tiemann, CYGNUS Support, USA
Dmitry Volodin, DEMOS, Russia

Submission of Papers

The program committee wishes to include both technical papers and short reviews.

Submissions should be either a complete paper (4 to 8 pages), or at least an extended abstract (2 pages). Please send
For further information, you may contact any of the members of the program committee listed at the back of this newsletter.

Workshop "OSF Distributed Computing Environment" October 7-8, 1993
University of Karlsruhe, Germany

Call for Papers

The Technical Committee 3 of the German "Gesellschaft fuer Informatik" (Association of Computer Science) is organising a workshop focussing on the emerging OSF Distributed Computing Environment (DCE). OSF DCE is going to become an industry standard for open distributed computing and is available here and now. The major goal of this workshop is to bring together people interested in DCE and related technology. The workshop is both for practitioners and for researchers who wish to present their own work based on DCE, who want to gain insights into DCE functionality, or who are concerned with related efforts towards open distributed computing. Major topics of interest are:

- Distributed applications on top of DCE
- DCE technology components: foundations, evaluations, comparisons, new concepts etc. (especially concerning RPC, Threads, Directory, Security, Time, File System etc.)
- Relationship with other standardization efforts (e.g. ISO/OSI, OMG/CORBA, ODP, UI/Atlas)
- DCE and object-oriented programming
- DCE solutions for heterogeneous PC/workstation environments
Multimedia and CSCW applications based on DCE
DCE system porting
Implementation-level or conceptual extensions of DCE
Practical and theoretical limits of DCE
Other topics related to DCE within the broader context of distributed computing

Yet many professional and managers have found them to be the most important capabilities of their computer systems (Bullen and Bennett, 1991, Ladner, 1992). There is a small body of systematic research about the ways that email use can alter social relations. But it has been relatively unknown to many professionals and managers who have significant interests in or responsibilities for these technologies.

A book like Connections is long overdue. Lee Sproull and Sara Kiesler, along with Tora Bikson, Roxanne Hiltz, Robert Kraut, Lynne Markus, and Ron Rice are among the pioneers who have been studying how social behavior is altered when people and organizations depend upon electronic media for business communication.

Connections examines how the use of email and computer conferencing within organizations alters social relationships. The book is usefully modest in scope, and is aimed primarily at a professional audience. Sproull and Kiesler focus on behavior inside organizations rather than upon the numerous forms of electronic media, including public access systems such as Compuserve, community bulletin boards, or the Internet. Even so, readers who are interested in social behavior on these public access networks can find new insights in Connections.

Sproull and Kiesler provide a sophisticated understanding of how managing people using email differs from managers' often vague expectations of "increased productivity." They argue that email doesn't just substitute one communication means for another, but has far more significant social effects. Email increases people's connections within and outside their organizations. It transforms the social

Chair: Dr. Alexander Schill, University of Karlsruhe, Germany (Institute of Telematics), Nuclear Research Center, Karlsruhe

Conference languages: German and English

Submissions:
Short papers (4 pages) and long papers (10 pages) should be submitted to the workshop chair not later than 15 April 1993.

All submissions will be reviewed and authors will be notified by 15 June 1993. The final version of accepted papers is due by 7 July 1993, and will be published in the workshop proceedings of Springer.

For further information, please contact the workshop chair.

Reviews


Electronic mail (email) use is one of the important emergent phenomena of computerization. Email capabilities have often been treated as minor additions to computer systems with more social roles.
relationships between people who connect electronically rather than just face-to-face not only by increasing the ease and frequency of interaction, but also democratizing group discussion.

The window into a highly-connected environment this book provides is important for people less well-versed in the technology to help avoid common embarrassment such as sending "private" messages that may be printed on public printers by any recipient, inadvertently responding to all members of a list instead of to the sender, and adopting inappropriate personas in public forums. The book’s ethnographic content is unique among email texts.

The first two chapters are devoted to describing how email creates an immediate "first-level effect" of increasing efficiency by reducing the costs of sharing information, and accelerating and regularizing information flow.

The real news in their argument is contained in their description of "second-level effects" in which electronic communication alters attention, contact, interdependence, roles and information exchange.

The authors support their theses through engaging examples of group coordination and behavior cues in real copies of email and systematic studies.

During the last 10 years, they have developed an important program of empirical research on the ways that groups use electronic media, and the consequences of this use. They organize their research by building on a 40 year tradition of experimental work on small group behavior carried out by social psychologists. The results of Sproull, Kiesler and their colleagues extends that tradition to give useful insights into these newer forms of electronic group work. For example, small group researchers have found that groups are much more likely to make riskier decisions than the individual members would have if they acted alone. Sproull and Kiesler's experiments build on this theme to examine whether groups which communicate over electronic media make decisions that are more conservative or riskier than groups in face-to-face meetings. Kiesler and Sproull marshal interesting evidence to show that electronic groups often behave differently than face-to-face groups, even when they work on similar tasks.

Electronic groups are less dominated by the amount of talk generated by the higher status participants. But participants get less ongoing feedback in body language, and consequently, they engage in less conventional behavior. Participants are sometimes much less polite with each other, and take much more extreme positions. The authors report that small electronic groups can take from 4-10 times as long as face-to-face groups to develop a consensus.

The decisions were often riskier, but participants trusted them as much as they did the more conventional decisions made in face-to-face groups. A key element is Sproull and Kiesler's argument that electronic media "lack" the social cues which regulate interpersonal behavior. When people communicate with electronic media, they have more trouble imagining what others are feeling because they don’t see nods or grimaces, or hear murmurs of approval or grunts of dismay in the middle of their sentences. Further, they argue that electronic communicants do not see
symbols of the social status of a meetings' participants, and consequently are less constrained by them. We find this argument interesting, but not completely convincing. Blank paper provides no more social cues than do computer screens. But people often embellish paper and screens with clues about their status and orientations. In addition, experienced email users often embellish their messages with some crude signifiers of emotions (sigh, grin). Further, as a discussion continues, people learn about other's perceptions. Also, one of the reasons electronic meeting may take longer than face-to-face meetings is because many people can talk faster than they can type. It is more accurate to say that people who communicate with text-based email or paper are likely to have fewer social cues about each other's social position and reactions than do people who communicate face-to-face. Kiesler and Sproull do a superb job of helping us understand the way that reduced social cues alter the behavior of groups and their decisions. (The reader who is interested in more recent research on this theme should see Lynne Markus' article.)

The exploration of cues can prove useful in educating people who find that the traditional cues of their position are absent in their email interaction. Novices or people who only occasionally use email can use "Connections" to avoid the pitfalls of creating negative cues through Sproull and Kiesler's observations in chapter 5. For example, by illustrating the ephemerality of the medium, the authors induce people who are concerned about their status to be more conscious of the way the message "looks" and how its image is entwined with what it is trying to say. This is particularly important for those who have assistants handle their correspondence. In modern organizations, people use many means to communicate, including face-to-face, memos, telephone, and email. Each of these offers different possibilities for developing a position, learning how others feel, and obtaining other cues. Often, participants who have ongoing relationships will use two or more of these media. Kiesler and Sproull open the question about how groups that use many or all of these media behave in contrast with those that rely only upon the convention non-digital media. They propose four principles to create an optimal environment for a networked organization: view people as people instead of users, provide open access to people and information, offer diverse forums for people to interact, and promote information exchange through policies and incentives. Connections outlines key policy and infrastructure choices in a way that can be understood by both systems managers and upper managers.

Connections pulses with a lyrical enthusiasm for new communication technologies while periodically pausing to give readers helpful cautionary insights. Sproull and Kiesler are generally promoters of electronic communication. Their enthusiasm guides their emphasis upon some topics at the expense of others. For example, while they emphasize the ways that electronic media facilitate new social contacts, they lightly touch on the ways that professionals and managers in organizations which depend heavily upon email can collect 30 or more messages a day, and spend hours responding to those that do require responses or attention. Further, a professional or manager in such an organization can return from a 7 day trip to find an enticing platter of 300 messages filling his electronic mailbox.
It is worth mentioning a few key gaps in the book. First, Connections doesn’t pay much attention to the issues of information overload, privacy, misinformation, system breakdowns, the distribution of competencies, and technical risks, even though some of these are mentioned. This is a pathbreaking book that shows how the use of email can be studied empirically and conceptualized. But there is much important work for follow-on studies. These missing topics can be of considerable consequence in organizational life. For example, organizations may use mail systems very differently when either mail systems are common and seamless or mail systems vary from one division to another, and many messages are lost, delayed or garbled when crossing the mail system boundaries.

The book also ignores some possibly important elements of system designs. For example, chapters 1, 5, and 7 examine communication via distribution lists. However, the authors don’t mention that distribution lists can load one’s mailbox with numerous relatively unimportant messages. There are alternative communication architectures, such as bulletin boards, which don’t automatically add messages to one’s in-box. But they require efforts to access, and messages can disappear from the centrally stored bulletin board before very casual readers scan them. This architectural difference, with resulting differences in style of information management, probably plays a key role in how many electronic groups one can participate in, either seriously or very casually.

Similarly, Connections doesn’t examine issues of long term info management with electronic communication. When key communications are in electronic form, people often try to archive them, and can build collections of hundreds or thousands of message files. Unfortunately, many of today’s email systems don’t provide good tools for managing such archives. It should not surprise us that organizations that adopt electronic systems with high quality archiving and search capabilities may behave differently than those in which managing electronic communication is a time-consuming nuisance.

Last, Connections focusses on the groups that use email for meetings and other work. In many organizations, only a fraction of people use email routinely. Email connects some people much more effectively than others, and can reshape the communication infrastructure of social systems. When and how do people’s more and less active participation in email use alter the way that whole organizations behave? For some organizational members, routine email use by others disconnects them from significant aspects of organizational life. This is an important topic that would require a different form of study. It again indicates a kind of topic which reading this book inspired us to consider more carefully.

As a collection, the topics listed above are, less amenable to the kinds of experimental studies which form the evidentiary core of Connections. But they illustrate the range of issues which can shape the way that organizational participants use email systems, and consequently, the way that organizational practices hinge on key details of systems in use, not just generic system features. For example, the default editor for the mail system used by a major US bank is a crude line-editor. The clumsiness of the editor discourages people from sending messages more than a few lines in length. Message length could be
influenced by other considerations, since many people want to send and receive only short messages. And there can be costs for people who have to read numerous long messages. But in this case, it seems that the limitations of a specific mail system, rather than overwork or collective preferences for short messages favors electronic communication via brief notes. And brief notes favor some "connections" more than others. Brief notes may also be cryptic and thus foster miscommunication. Bullen and Bennett (1991) reported that participants in their study almost universally valued email, even when the systems were clumsy. But follow-on research could examine whether certain kinds of system constraints alter the forms of communication and the resulting social value of email.

These gaps indicate how Connections opens up possibilities for a rich array of systematic empirical research about the way that email systems influence organizational behavior. But the professional reader will find a sufficient number of cues and clues about these matters to find the book to be an invaluable resource now. The book is especially important to help bring the dynamics of electronic group communication to the attention of practicing managers. Most managers that we know who are interested in email are preoccupied with basic and important operational questions about access patterns, gateways, pricing, system maintenance, security practices and archiving. They haven’t yet given much attention to how their human organizations may change after they get the mail to flow smoothly, and everyone to depend upon it for numerous routine communications. Scholars who wish to follow up these topics will find rich ideas and data in Connections. The bibliography is also superb for a professional book. But it is a bit too selective for scholars who want to delve more deeply into electronic communication in organizations. Key citations to important studies of electronic communication media use by other prolific scholars are missing from the references.

Connections concludes with a chapter to help managers start up computer networks inside their own organizations. But Connections is not a simple technologically utopian tract. Sproull and Kiesler’s analyses make practical recommendations on strengths and pitfalls of the electronic communication in various circumstances. Connections is a pioneering book that every manager or professional who is interested in the use of electronic communication must read. And it's a provocative book for scholars as well. The new and inexpensive paperback edition makes the book easily accessible to virtually anyone with a serious interest in email and organizational life.

References


Markus, Lynne "Electronic Mail as a Medium of Managerial Choice" (Organizational Science (forthcoming).
From the Net

Wednesday, December 2, 1992

National Science Foundation Network achieves major milestone: T-1 NSFNET now part of Internet history.

Like its predecessors, the ARPANET and the 56 Kbps National Science Foundation Network (NSFNET), the T-1 NSFNET passed into history today when the last router was moved to connect to the T-3 backbone service. As of 12:01 a.m. EST on Wednesday, December 2, the T-1 NSFNET backbone is no more — its circuits are turned off — marking the beginning of a new networking era. When first implemented just over four years ago, the T-1 (1.5 Mbps) NSFNET backbone was state-of-the-art for the Internet, deploying new levels of speed and management. With improvements in routing technology, the Internet moved from an experimental service to a production commodity. Demands for higher speed services and increasing backbone traffic led to the T-3 (45 Mbps) backbone service implemented over the Advanced Network & Services, Inc. Network (ANSnet) that has replaced the older T-1 NSFNET technology. The growth of NSFNET promoted a global internetworking industry estimated as generating billions of dollars in annual revenues. "Rapid change characterizes the high technology business," said Eric Aupperle, president of Merit Network, Inc. and principal investigator on the NSFNET project. "Five years ago, the federal government was predicting T-3 technologies in the mid-1990s, but demands for network service are pushing the speed of transferring technology from the laboratory to the desktop. And so T-3 technology is a reality today. While one era is ending, the stage is already being set for even more advanced technologies in NSFNET networking within the next year to 18 months."

In five years, the communications capacity of NSFNET has expanded almost 700 times through the implementation of leading-edge technologies, growing from 56 Kbps to T-3. Today the network's backbone service carries data at the equivalent of 1,400 pages of single-spaced, typed text per second. This means the information in a 20-volume encyclopedia can be sent across the network in under 23 seconds!

Today every major research, graduate, and four-year university is tied together through NSFNET, along with private and federal research institutions and industries. Over 700 colleges and universities are connected representing 80 percent of the nation's student population and 90 percent of the nation's federally sponsored research. Further, NSFNET provides access to hundreds of high schools, libraries, community colleges, and smaller educational institutions. With over 1,000 public and private research and education institutions, NSFNET links an estimated 10 million users. As the commercial Internet has grown, links are expanding between education and business communities which are promoted through expanding connectivity.

Access to the network over the past five years has surpassed the most optimistic visions projected for it. The National Science Foundation's 1987 solicitation for NSFNET said, "It is anticipated that over the next five years NSFNET will reach more than 10,000 mathematicians, scientists, and engineers at 200 or more campuses and other research centers."
After five years, these numbers have been more than exceeded and network growth continues to be exponential.

A reflection of that growth is network traffic. Total NSFNET traffic grew from 195 million packets in August 1988 to almost 24 billion in November 1992, a 100-fold increase in four years. During November, the network reached its first billion-packet-a-day mark. Network growth increases an average of 11 percent per month. The total number of connected networks grew from fewer than 200 to over 7,500, of which one-third are outside the United States. Today NSFNET makes it possible to reach educators and researchers in over 75 countries around the world. Recent surveys show over a million host computers are connected to the Internet, with an even greater number of individual users accessing those computers.

Meeting the challenges of building the central infrastructure for this high-speed data communications network has been the focus of a joint government, academic, and industrial partnership for the past five years. Merit Network, Inc., in association with Advanced Network & Services, Inc. (ANS), IBM, MCI, and the State of Michigan, has led pioneering efforts to put in place a national network service through a 1987 cooperative agreement with the National Science Foundation. The partnership deployed the T-1 network on schedule in July 1988, and began the T-3 network service implemented over ANSnet in late 1990.

"The T-1 NSFNET project has been a remarkable adventure," said Stephen S. Wolff, director of the National Science Foundation’s Division of Networking and Communications Research and Infrastructure (DNCRI). "It’s an experiment whose success goes far beyond even the highest hopes we had for it. Because of this program, it’s now conceivable that the U. S. can implement a network connecting every student and teacher in the country — from kindergarten to post-college — before the end of the century, revolutionizing education and research. Five years ago, this seemed only a very distant dream."

Conference Reports

UKUUG/SUKUG Joint Winter Conference
(Alan Chantler)

6-8 January 1993
University of Oxford

The invitation to attend this Conference looked interesting. The proposed Conference Programme seemed to address areas of direct relevance to our institution. And anyway, it was my turn to attend such an event!

I have to admit that I was attracted by the venue. Experience has shown me that the ‘City of Dreaming Spires’ is home to a number of ringable towers and drinkable pubs. I had taken the precaution of undertaking a number of exploratory visits to reconnoitre the lie of the land, find the total absence of car parks and visit my son at St John’s. I also hoped that the Conference would enable me to renew a few old acquaintances: Mick, Bill, Andrew, Archer’s, Morrell’s etc. Better than that I made new contacts, both from the UNIX world and from amongst the Sun worshippers.

Having taken the precaution of arranging a parking space in advance (Oxford and cars
do not belong together) I was able to register early on Wednesday morning. I was a little concerned to discover that the Conference ‘freebee’ was a Dictionary. Did this mean that the speakers would be using words which I don’t understand? Was this a comment on the fact that we were in a hallowed seat of learning? Should I go home now rather than admit that I come from one of those upstart New Universities? My mind was set at ease when, upon entering the lecture theatre, I discovered that some of the seats were missing. Just like home after all!

The combined conference was a suitable compromise of UNIX and SUN interests. The first day was mostly UNIX, the second was a joint day and the Friday was mostly SUNnyny. There were a number of interesting presentations on day one. The theme was basically communications oriented and the papers contained a mixture of experience and conjecture. The experiences of a DAD called Christine were of particular interest to me, as was the paper from Bob Day about SuperJANET, which scored the highest NAR (New Acronym Rate) of the event. Dave Down’s view of ISDN was spoiled, for me, by his conjecture that this may take up to 30 years to ‘get established’. I retire in only 18 years! Nigel Oakley’s ATM paper reminded us that size IS important after all, and that the answer is 53 not 42. Piete (wearing his seasonal sandals) told us all why we should run RFC931 to facilitate out snooping the snoopers.

During the day attempts were made to organise some BOFs. One which intrigued me was "Beginner’s Pub Crawl". What could this mean? I first started to use UNIX 15 years ago, and my first PCE (Pub Crawl Experience) was over 30 years ago, so this couldn’t be meant for me. Instead I made the acquaintance of a few pints of Headbanger as an aperitif.

Wednesday was highlighted (highlight?) for me in two respects. Firstly, at tea, Sue told me that I had volunteered to write this report. This meant that I had to try to stay awake for the rest of the Conference. Secondly, after a splendid dinner in Keble Hall, we were entertained to some spirited ad-hoc singing, which exposed the acoustics of the building. I trust that there was no direct connexion (OED) with the crack in the fabric of the hall!

Thursday was a mixture for me. As we only have a single SUN 3, to provide the heating, the papers on system tuning were of marginal interest. I learned that we are about to run out of IP addresses, and that video CODECs will make remote virtual reality a possibility. Perhaps next year’s conference will be at home, for all of us? The paper called "The Evolution of Client Server Computing" had me fooled, since that wasn’t what it was about, being instead a description of SUN’s DOE/DOMF. But I was interested in the tale of porting the Medline Database from CDROM to a TCP/IP network. I liked the idea of the 5 drive 11Gb metadisk. I shall talk to our Librarian about this when I get back. The last paper described a Tadpole which I think would turn into a Prince if you kissed it in the right place (outside Blackwell’s in Broad Street).

Thursday’s BOFs promised an "Intermediate Pub Crawl", visiting 12 pubs. Sounds more like a sprint to me. Dinner at Keble again but nobody sang.

Friday was SUNday. The visitors from SUN were entertaining and informative, even to a non-convert like me. A memorable comment about writing device
drivers, "It isn’t meant to be easy!", reminded me of that comment buried within the Edition 6 kernel "/* You aren’t supposed to understand this */". I also liked the bread making analogy of Software Development - "Have you ever tried maintaining a loaf of bread?" - but it was a bit of a surprise to learn that in the US of A the way to remedy a broken car headlamp is to buy a replacement for the car.

All in all a good conference. The venue, accommodation, food and organisation were well up to standard. The dexterity of those operating the OHP was quite remarkable, and I especially liked the illustrated delegate list.

Regulars

Puzzle Corner
(Mick Farmer)

What can it be? Perhaps I’m not receiving e-mail from anywhere in the UK? No, the Inland Revenue contacted me yesterday. Perhaps my e-mail address in the newsletter is wrong? No, I’m sure that’s correct underneath the red wine stain. Perhaps I’ve got a secret kill daemon deleting certain messages? No, that’s reserved for messages from the Inland Revenue. Perhaps my system administrators are deleting certain messages? No, only those from my head of department. Perhaps someone else is secretly using my account and being vindictive? No, the logs show only me and Gaspode.

That only leaves one other possibility — no one is sending solutions to Puzzle Corner! I’ve received nothing concerning the last two puzzles, so I can’t see the point in continuing the column, especially as I’ve got other responsibilities now.

However, if you’d like to take it over with your own brand of puzzles, chat, and general merriment please contact Sue, our editor, with your ideas. Perhaps it’ll be your face on show in the next issue!

Small Ads

BSDI is now shipping Release 0.9.4 of BSD/386, derived from the Berkeley NETII release for your 386 or 486 machine. It’s a complete system: X11, networking, NFS, compilers, text processing - and more. It comes with full source, is available on CD, and is supported by experts. Sounds good?

Berkeley Software Design International (Europe) Ltd can tell you more:

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For Sale: Terrabeam E/10 Ethernet laser link with brackets, cables, 2 x Cabletron MR2000C AUI-thinnet repeaters. (IEEE 802.3 compliant, protocol transparent, runs at 10Mbs, range 1Km). £7,000

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Calendar of Events

1993

15-18 Mar, UniForum, San Francisco, California, USA
18 Mar, UKUUG AGM, London, UK
3-7 May, Probable EurOpen Conference
21-25 Jun, USENIX, Cincinnati, Ohio, USA
14-16 Sep, JANET User Support Workshop, Manchester Metropolitan University, UK
7-8 Oct, Workshop "OSF Distributed Computing Environment" Karlsruhe, Germany
1-5 Nov, LISA VII, Monterey, California, USA

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