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### HOTLINE CHANGE

For the next few months, the processor that services the hotline will be running operating systems other than UNIX. (for shame!) Accordingly, on February 15, the telephone number for the hotline will be changed to 212-859-6853. It is still 300 baud only.

### SECOND SOFTWARE DISTRIBUTION

Due to problems with the magnetic tape drives at Chicago Circle, the mailing of the second software distribution was not begun until January 10. Domestic shipments were sent as "library material", overseas by air. The delay did allow for the inclusion of a few last minute items not on the list in the November Unix News. Among the major additions are:

1. Improved RJS-04 Driver
2. DOS BASIC under Unix.
3. Shared data space for user programs.
4. Improved TU-16 Driver to handle multiple files per tape.
5. APL
6. Yale Shell

Since Chicago Circle no longer has access to 1600 bpi tape drives, tapes should be sent as follows:

300 bpi  
Michael T. O'Brien  
Dept. of Information Engineering  
University of Illinois at Chicago Circle  
Box 4348  
Chicago, Illinois 60680

1600 bpi  
Melvin Ferentz  
Physics Dept.  
Brooklyn College of CUNY  
Brooklyn, New York 11210

### UNIX NEWS

Enclosed is your invoice for Unix News. If the year 1976 is not struck from the invoice it means we think you haven't paid for that year. We expect to publish 10 issues this year omitting one summer month and combining December and January as we have in this issue. Upon payment for 1976, new subscribers will receive all of Volume 1.

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YALE SHELL

The Yale Shell is an enhancement of the standard shell written by John Levine. It is a proper superset of the standard shell which includes, among other things, alpha and numeric shell variables as well as a private "bin" directory for user shell command files which are accessible regardless of your current directory.

At the October Meeting at Harvard it was agreed that this shell would be adopted as a Users' Group "standard". This means that the assumption will be made that each installation has it and software distributions may use its features. The other Users' Group standard program in the distribution is "stp". Future Users' Group standard programs might include enhanced magnetic tape and tty drivers. The later would require the perhaps impossible task of agreeing on its attributes.

DRIVERS WANTED

Among the drivers recently requested are those for floppy disks, Gould 5000, and the DZ11 with modem control. If you have any of these, and are willing to share them, please send them to the address below, preferable in machine readable form (magtape, Dectape, paper tape). We will subdistribute to requestees. We will also send it to Chicago for subsequent software distribution.

STP PROBLEMS

Word has drifted back to New York of troubles with "stp". If you have had such, either input it to the hotline or, if you prefer talking to people, call Mel Ferentz at 212-977-5371. Messages, if no answer, may be left at 212-977-8000.

NATIONAL CENTER FOR ATMOSPHERIC RESEARCH

HIGH ALTITUDE OBSERVATORY

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NEW LONDON LABORATORY  
NAVAL UNDERWATER SYSTEMS CENTER  
NEW LONDON, CONNECTICUT 06320

AREA CODE 800  
444-0771  
AUTOVON 888 - EXT.  
IN REPLY REFER TO:

3143:RH:cfs  
11 January 1976

January 27, 1977

Prof. Melvin Ferentz  
Physics Department  
Brooklyn College of CUNY  
New York City, New York 11210

Prof. Melvin Ferentz  
Physics Dept.  
Brooklyn College of CUNY  
Brooklyn, New York 11210

Dear Professor Ferentz:

I am writing you with regards to the UNIX operating system as it is my understanding that you are in charge of a UNIX Newsletter. The High Altitude Observatory is currently obtaining UNIX and thus, we would like to be added to your mailing list. In addition we would greatly appreciate any information you might have in the following areas:

1. Is anyone else using UNIX in our part of the country, and
2. Who, if anyone, has implemented drivers under UNIX for:
  - a. The DEC CR-11 card reader
  - b. TEKTRONIX 4000-series graphic terminals
  - c. VERSATEC printer-plotter
  - d. DEC DZ-11 multiple asynchronous line interface.
  - e. DEC DQ-11 high speed synchronous line interface using an IBM 3780 bi-synch. protocol.

Thanking you in advance for your help, I am

Sincerely yours,

*Ray Bovet*

Ray Bovet

RB/td

Dear Prof. Ferentz:

My organization is now in the process of becoming a UNIX user. Please send me any particulars we need to join the UNIX User's Group. We have one need which you may be able to help us with. I understand that you publish a newsletter containing special requests and patches from users. As soon as UNIX is running here, we are going to need a package to emulate a CDC 200 UT remote job entry station. If possible, we would like to get an existing package from another user rather than writing it ourselves. If one does not exist, but someone has tried to write one, I would like to contact that person for any guidance they may be able to share. Therefore, I would appreciate a notice in the newsletter requesting anyone who has experience with emulating a CDC 200 UT under UNIX to contact me.

Thank you.

Sincerely,

*Rosemary Howbrigg*

Rosemary Howbrigg  
Naval Underwater Systems Center  
Code 3143  
New London CT 06320  
A.C 203-442-0771, ext. 2910





24 January 1977

DEPARTMENT OF COMPUTER SCIENCE  
HEAD OF DEPARTMENT  
P.E. OSMON, B.Sc., PH.D., F.I.E.R.E.

HAT/CYT

19th January, 1977

KIDDERPORE AVENUE E.  
LONDON, NW3 7ST  
Tel: 01-435 7141

Prof. Melvin Ferents  
Professor of Physics  
Data Acquisition Facility  
School of Science  
Brooklyn College of the City of New York  
Brooklyn, NY 11210

Professor Melvin Ferents,  
Brooklyn College of CUNY,  
Brooklyn, N.Y. 11210,  
U.S.A.

Dear Sir:

I was given your name, from a few sources, as the person to contact regarding the availability of software to run under UNIX.

I am investigating the possibility of using a PDP11/34 as a "smart" terminal to acquire access to various large-scale computers and to perform some local applications. There are a few pieces of software I need to help put this together. There may be others as I get more deeply into its design, but for now I have the following list:

1. CDC UT200 emulator
2. IBM 2780 emulator
3. A DN11 software interface
4. A DU11 software interface
5. A DF11 software interface
6. A faster FORTRAN (I understand the standard UNIX FORTRAN is very slow)

I understand there is a central collecting place for the various software packages available under UNIX. If you can refer me to that place, I will appreciate it.

It would be a help if I could get back issues of the UNIX working group notes and publications. Can you help me in that area? I would like to become a member of that group. How do I accomplish this?

I would appreciate any help and/or names of persons to contact who may have similar requirements.

Sincerely yours,

*Robert L. Mobley*

Robert L. Mobley  
Director of Computations

Dear Sir,

First some notes on the distributed Unix software:

(1) In software distribution number 1 "/rtip/rtip.c" there is no exit() function call before the close of main (...). Also it was not clear, except by examining the program text, whether Dectape or magtape was to be manipulated.

(2) The magtape driver and tp were incompatible in that the magtape refused to seek whilst doing a selective extract. This has been temporarily cured by removing the Emplys(.,.) call within tthread(...).

(3) There appears to be an error in the C compiler source in reexpr(...) of /lib/Cl. After /case INIT / by 5 lines:  
else if (tree -> trl == CON)  
which should presumably read  
else if (tree-> trl -> op == CON).

I am considering implementing a program to manipulate magtape to British Standards Institute specification which would be able to read/write R11 compatible tapes. This would involve some modification to the system tape driver to allow for explicit knowledge of EOF/"Tape Marks". Tapes initially written by Unix would use the first file on the tape for Unix information as in the tp directory. If anyone would be interested in using such a format, please indicate so in the Unix News.

Yours sincerely,

*H.A. Thomson*

H.A. Thomson

EDITORIAL

Happy Xmas (assuming you read this in time) and in any case a Happy New Year for a first year of this newsletter. It was conceived at IUCC in September but gestation has taken a little while; now it is born we hope it will grow into a spirited youngster.

Very many thanks to those who sent in contributions (and a polite reminder to those who said they would contribute but didn't!). At the moment we have eleven interested installations, all in Computing Science or Electrical Engineering Depts. At this point it seems worth quoting a passage from the QMC contribution (see later). UNIX is a valuable reference point for discussion about problems in Computer Science teaching and research. We are particularly interested in hearing views and experience on the role of Unix in undergraduate Computer Science teaching." Any offers?

Which regard to software exchange we must agree with QMC that it is probably only worthwhile for fairly large programs e.g. compilers. In order to facilitate this we've listed the magnetic tape and disc devices available at various installations, comments being RMSD cartridges and DEC tapes, but unfortunately no-one claims to possess both! Even where people are unwilling or unable to exchange software, it would be useful to know of others who for example are running the same compilers, that one can exchange notes on useful dodges and modifications and ways round presently insuperable difficulties. Perhaps people could be encouraged to send articles on their experience with particular pieces of large software, so that the rest of us could decide on whether they were worth getting?

Let us now clarify the role of the correspondent at each installation. The idea was suggested and approved at the IUCC meeting, but not very well defined. Some installations have been unwilling to provide correspondents, probably because they are afraid of becoming acting unpaid advisers! This could be avoided if any installation offering information about or exchange of particular pieces of software in this newsletter, would name a contact each time (possibly even in U.S.A.). The correspondent's main job would then be to encourage interest in the newsletter within a department, solicit articles, send in interesting gossip and occasionally answer queries from people who don't know who else to contact. With this understanding we publish below a list of Unix installations and correspondents.

The next issue will probably be in April. Please send in your contributions!

P. M. D. GRAY  
DEPT OF COMPUTING SCIENCE  
UNIVERSITY OF ABERDEEN  
KING'S COLLEGE  
ABERDEEN AB9 7QB

UNIX in the Computer Systems Lab. at QMC

The main activities of the Lab. are research into the design of interactive and distributed computer systems, and teaching in most aspects of computer systems. These activities are undertaken largely cooperatively by about 20 academic, technical and research staff and post-graduate students who work in the Laboratory.

Current areas of significant research activity include the design of interactive command languages, interactive terminal design, personal computer systems, micro-computer applications, machine architectures and networks of mini- and micro-computers.

We run Version 6 with several extensions and modifications. The principal extensions to the system are: (i) a much extended tty.c terminal handler (originally developed by Mark Kampe at University of California at Los Angeles) with additional terminal mode settings, better input editing facilities and paging of screen output; (ii) an extended editor with word-processing and other features that exploit fast teletype-compatible displays; (iii) an input-output library that simulates screen windows on conventional displays that have a cursor positioning function.

We have developed a number of interactive programs for mail handling, diagram preparation, controlling satellite computers, etc. Most of these programs depend to some degree on the hardware characteristics of terminals, satellites, etc. A recently completed project resulted in the development of a modular interpreter system for a version of the LOGO educational programming language on our Unix system.

The idea of a UK Unix newsletter seems a good one. If only because Unix is a valuable reference point for discussion about problems in Computer Science teaching and research. We are particularly interested in hearing views and experience on the role of Unix in undergraduate Computer Science teaching.

A software exchange is probably only worthwhile for fairly large programs since the small ones can be developed so quickly with Unix. We are always willing to make our programs available to others, but we find that interested visitors occupy an increasing fraction of our available effort, so we should very much prefer to distribute them through a Unix exchange. Unfortunately, our only medium for exchange is DECtape.

Things we would like to see: a more effective method for UK Unix users to exchange information, ideas and software, possibly via the EPSS network; a 'c' compiler for ICL 1900's; a better magnetic tape archiving program.

No one here is willing to act as our sole correspondent with other UK Unix sites, so you had better just address the newsletter to the Laboratory without further specification!

CARNEGIE-MELLON ALGOL 68S FOR POP 11

This sublanguage of Algol 68 has two major restrictions, no formatted trans-put, and no untyped codes. Most of the other features you are likely to want are there, including strings, heap generators, and parallel clauses. In case you have come across Algol 68C, I should mention that in Algol 68S there is a garbage collector associated with the heap.

The person to contact for information about Algol 68S is:

Prof. P. Hibbard  
Carnegie-Mellon University  
Department of Computer Science  
Schweitzer Park  
Pittsburgh  
Pennsylvania 15213  
USA

Algol 68S is interfaced to the host operating system by a package called an OSE (Operating System Environment). A Unix OSE is being written at British Columbia. It was intended that we should start writing an RT-11 OSE in September 1976, but we are still waiting for the necessary information.

On the Carnegie-Mellon system, the constituent units of a parallel clause are elaborated on separate processors. Algol 68S also contains a built-in coroutine facility which allows programs using parallel clauses to be elaborated on single-processor systems. Implementors are advised to make use of the coroutine facility unless their system genuinely has more than one processor. However I think it would be interesting to implement parallel clauses by forking in the Unix version and I hope British Columbia will try it.

Colin Taylor  
10 Nov 76

NEWS IN BRIEF - QUERIES

DJ11 Device Driver written by St. Andrews, incorporates 'pause control' character.  
Contact G. Nelson.

DPC floppy discs. Does anyone have a driver? Contact P. Collinson, Kent.

Algol 68R syntax checker is being modified at Westfield to run under Unix.  
Contact Howard Thomsen.

Software from Amsterdam Institute of Maths in use at Kent includes

ML1 - Macro processor;  
MKCOPY - standalone RK05 disc copier;  
COPY - copies sections of the file structure,  
not just single files.

Contact P. Collinson, Kent.

KILLUNIX (is this what we have all been waiting for?!) takes system down safely, killing all processes and causes 11/40 to halt. Contact P. Collinson, Kent.

Overlapped Seek Driver for RPOJ originally from Boston Childrens Museum. In use for 2 months, marked improvement in speed.

Contact D. Taylor, Loughborough.

Lost characters. Do you lose characters when sending at high baud rates (>2400) down asynchronous lines to terminals or other machines? Any solutions?

Contact D. Taylor, Loughborough.

Media Conversion. How can RK05 users get data transcribed from Dectape or Mag tape, especially stuff from U.S.A.? Is it worth establishing a central transcription service, (presumably with payment)? What do readers think?

Harvard LISP (on Dectape). Contact B. Anderson, Essex.

EDP11 (like POP-2) developed at Sussex and used for teaching Arts students. Contact S. Hardy.