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BULLETINS

To allow for additional office space at Lauderdale and still maintain the present Lauderdale user's work area, we will begin removing some of the storage shelves on April 15. This work should be completed before July 1.

Please remember that this storage area is restricted to active Lauderdale users whose work requires regular access to their computer related materials. We ask that you remove all 'inactive' materials and reduce the amount of 'active' storage now. New storage cabinets will be arriving soon and new storage applications will be required for the new fiscal year. If you require continuous storage space, please act now. Also, don't forget that the rate for storage, beginning July 1, will be \$5.00 per shelf per quarter.

To obtain additional information, leave your name and phone number with the Lauderdale secretary or with the Operations office (373-4876).

▶ THE SPRING QUARTER USERS MEETING HAS BEEN RESCHEDULED. NEW DATE IS MAY 17 IN ROOM 115 SOIL SCIENCE BUILDING, ST. PAUL CAMPUS.

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THE DEADLINE FOR THE MAY NEWSLETTER IS APRIL 24. READERS ARE INVITED TO SUBMIT ARTICLES.

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UCC newsletter

VOLUME 12 NUMBER 4 APRIL, 1978

Director: Peter C. Patton
Editor : A. Koepke

Comments about the content of this newsletter, or suggestions for changes may be directed to the editor, 235a Experimental Engineering, 373-7744.

The University of Minnesota adheres to the principle that all persons shall have equal opportunity and access to facilities in any phase of University activity without regard to race, creed, color, sex, age, or national origin.

CYBER 74 UPGRADE NEWS

OUR INTERIM SYSTEM WILL BE ABOUT 2 WEEKS LATE!!!!!!

Although we had planned for the entire hardware expansion to be delivered on March 31 and to have it available for use on approximately April 15, CDC has reported that the Cyber 172 will come in two major shipments; the first on April 14, and the second on May 12.

The April 14 delivery will include:
One processor (CPU) with 131K central memory,
669-4 tape units
844-41 disk units
one 7152 controller
580-12 printer with ASCII print train.

With the addition of a local PDP-11 front end system and a 405 card reader, this would be enough equipment to run 20-25 interactive research ports starting on or about May 1.

The May 12 delivery will include:
Two 7154 disk controllers
2551 communications equipment

This will make additional ports available on or about May 15, 1978.

Finally, the second CPU will be installed on the weekend of June 10-11 to add the last piece to the Cyber 172 and thus complete the proposed expansion.

Further information can be obtained from the UCC Newsletter "EXTRA" (March, 1978), and from the UPGRADE BULLETINS, which we will begin issuing about April 20.

L. Liddiard, 373-5239

MNF PAST

During the change to NOS in June, the PAST version of MNF will be moved; not removed but simply renamed. Instead of

PAST,MNF.
MNF.

you will then do
FETCH,MNF.
MNF.

This non-Record Manager version of MNF will remain available via FETCH as long as a sufficient number of users avail themselves of it; however, it will receive no support.

The current FETCH version of MNF is very old and almost useless; it will disappear with our NOS conversion.

R. Franta, 376-3963

S I R

We are considering the support of a package called "SIR: Scientific Information Retrieval." SIR is a multi-purpose data manipulation and retrieval package which provides a hierarchical database structure particularly suited to statistical or research oriented data. It uses SPSS-like syntax.

This package:

1. Provides (for users without much programming experience), data management of nonrectangular scientific data files, particularly update and retrieval procedures.
2. Provides easy methods for retrieving data sets in either batch or interactive mode, creating SPSS or BMDP system files, and creating raw data files.
3. Provides a relatively easy means of generating formatted reports from user selected hierarchical data sets in the data base.
4. Performs limited statistical routines such as simple descriptive statistics and line printer plots.

A limited number of manuals and pocket guides are on order at the Williamson Hall bookstore.

If you are interested and want more information about SIR, please call one of us:

S. Yen, 373-4886
J. Cosgrove, 376-1761

LIBRARY CHANGES & ADDITIONS

March 28 - NORMAL corrected; it occasionally would store one word beyond the end of the random number array.

M. Frisch, 376-1636

NEW PRODUCTS, NEW VERSIONS

SYMAP

SYMAP, a cartography mapping program developed at Harvard University, is designed to take map data and produce a map that can be listed on a standard line printer.

Information about SYMAP is available as a machine retrievable writeup; obtain a copy by executing the control statement,
WRITEUP,SYMAP.

A reference copy of the "SYMAP User Manual" is available in the UCC reference room. You may also order a copy of this manual by writing:
Laboratory for Computer Graphics
and Spatial Analysis
Graduate School of Design
Harvard University
520 Gunt Hall
48 Quincy Street
Cambridge, Ma 02138

SURFACE

SURFACE is a geological survey program designed to plot the earth's surface when given geographical and elevational coordinates. A copy of a user manual for SURFACE is available in the UCC reference room; you may also order a copy of this manual by writing:

Kansas Geological Survey
The University of Kansas
1930 Avenue A, Campus West
Lawrence, Ka 66044

To execute the SURFACE program, use the control statement,
SURFACE.

A machine retrievable writeup will be available near the end of April which will explain the differences between the standard Kansas Geological Survey SURFACE and the UCC version of SURFACE.

FUNPACK

A new version (Version 2) of FUNPACK has been installed on the system; this version has some added subroutines to solve Bessel functions. A machine retrievable indexed writeup is available which contains documentation on all of the routines available in FUNPACK. To obtain a copy of this writeup, execute the control statement,
WRITEUP,FUNPACK.

If you encounter any problems with SYMAP, SURFACE, or FUNPACK, please call
Kevin Fjelsted, 373-5780

THE SUGGESTION BOX

FIX THE MNF COMPILER SO THAT THE FOLLOWING ELSE AND ENDF ARE NOT FLAGGED AS ERRORS BECAUSE THEY HAVE NO STATEMENT NUMBER:

```
IF(CONDITION) THEN
```

```
  .  
  GOTO 1  
ELSE
```

```
  .  
  GOTO 2  
ENDIF
```

M.R.M.:27FEB78

This has been fixed.

E.J. Mundstock

CREATE A DISPLAY FOR USERS TO SEE JOBS IN THE DELAY QUEUE. ALSO, GIVE USERS THE ABILITY TO MOVE JOBS FROM THE DELAY QUEUE INTO THE INPUT QUEUE, OR KILL THEM.

CREATE A DISPLAY THAT USERS CAN USE TO FIND THE STATUS OF THEIR DISPOSED JOBS, AND ALSO, IF POSSIBLE, KILL THEM BEFORE THEY CAN PRINT.

A list of delayed jobs can be seen with the control statement

```
QUEUE,LIST,DELAY.
```

The ability to manipulate these jobs is under study.

The user number which submitted the jobs should at least be able to see the status of all submitted jobs. This facility will be provided eventually in the NOS shared queue file scheme. The actual manipulation of queue files must wait until we gain more familiarity with the NOS queues.

K. Matthews

I SUGGEST THAT DUMPPF HAVE A VERIFY OPTION TO ENSURE THAT FILES BACKED UP ON TAPE ARE CORRECT. BOTH A "V" PARAMETER ON THE CONTROL CARD TO CHECK ALL THE FILES FOR THAT DUMP AND A "V" ON THE SELECT DIRECTIVE (*SELECT FNAME,V) WOULD BE VERY HELPFUL.

This is a good suggestion. We want to add a LOADPF option which will verify the dump tape against some of the permanent files. The systems group programmers are unfortunately very busy now with NOS tasks. The option needed should be added during Fall quarter, 1978.

K. Matthews

ADD SECURE PASSWORD ENTRY TO XMIT AS IS DONE FOR SEND.

D.R.:23JAN78

We are not sure what form XMIT/SEND will take when the Cyber 172 and the Cyber 74 are running NOS, while the 6400 is running KRONOS. However, where a user number and password are required to communicate from the 6400 system to the combined NOS system, we will provide the secure password feature.

K. Matthews

PLEASE HAVE THE JOB CARD ERROR ROUTINE CHECK TO SEE IF THE ERRONEOUS JOB CARD IS A USER OR ACCOUNT CARD, AND IF SO, PRINT SOMETHING LIKE MISSING JOB CARD, INSTEAD OF THE USUAL ERROR MESSAGE, WHICH DISPLAYS THE USER NUMBER AND PASSWORD FOR THE WORLD TO SEE.

S.E.C.:27FEB78

This cannot be done now due to the limitations in the PPU programs that process the job card. Note that the same problem can occur if one mis-punches a secondary USER statement, e.g.,

```
USEP,...
```

will cause the number and password to be listed.

K. Matthews

HOW ABOUT SOME LOCKERS FOR USERS TO RENT SO WE CAN STORE CARDS, REFERENCE MATERIALS, ETC. SAFELY AND NOT HAVE THEM IN THE WAY. THIS WOULD SAVE MANY EXTRA TRIPS RUNNING BACK AND FORTH.

Our long-standing and continuing problem is a severe shortage of space for user amenities. We had lockers for users but converted that space to respond to user requests. In ExpEng we have sitdown workspace, many keypunches, hands-on I/O equipment, output bins for disposed and diverted output, shelves for free documentation, consulting desks, and a high-speed I/O station. We are fresh out of room with no relief in sight.

T. Hodge

LETTERS

To The Editor:

The Fortran post-mortem processor, MANTRAP, is an exceedingly handy tool; however, in its present batch-oriented implementation, several difficulties are evident to the interactive user. For example, if one's program has a large number of variables which need to be examined in tracking down a bug, the user at the relatively slow 10 and 30 cps terminals can and must endure a tedious wait of many minutes before the entire list of variables is printed. (In fact, one is often tempted to rename troublesome variables so that they begin with AA.) Since the interactive user can easily modify and re-run a program in a matter of seconds, such long waits are inconsistent with the function and purpose of interactive computer usage. Furthermore, the user at a CRT cannot 'scroll' the display so as to permit unhurried inspection of the diagnostics. Additionally the inspection of the values of dimensioned variables is totally beyond reach unless one uses the even more cumbersome and wordy batch-formatted listing along with XEDITING procedures.

My personal experience, and my impatient nature, prompt me to suggest that the development of an INTERACTIVE VERSION OF MANTRAP be undertaken. Such a utility would essentially allow a user to randomly access any of the diagnostic information available to MANTRAP. Among the various features that would be available might be: 1) dimensioned variables could be inspected by specifying a starting set of indices and a range of values; 2) I/O buffers could be examined in a variety of formats; 3) format specifications could be displayed; 4) loader map information could be displayed; 5) the ability to read MANTRAP directives from an alternate input file (this would be a very powerful feature).

In general, the implementation of an interactive version of MANTRAP would be guided by a policy which would allow the user to decide which information is best suited to solve the problem at hand.

I don't believe this suggestion is too outrageously farfetched and I offer it here in the hope that other users might speak out in response.
Adrian Swanson

LETTERS

Dear Sir:

I am pleased that you like my suggestion for an interactive version of Mantrap. No doubt you recall that I have had the idea in mind for some months, but am concerned about the machine resources required by such a feature. However, I do not regard efficiency (which would undoubtedly be low) as an overriding consideration. You may find the use of LGO(OP=F), then XEDIT(MANTRAP) and the LOCATE command, a help if you are running large programs on a terminal. You are incorrect in saying that array contents cannot be accessed in terminal mode - LGO(DA=i+j+k) enables this to be done in a fairly general fashion. All of these features are described in WRITEUP(MANTRAP). Your idea for 'scrolling' the output on a CRT is interesting, and I will investigate it further.

To your specific ideas --

1. Array printing control is available already, although this would be done more easily and generally in an interactive version.
2. I cannot see much general use for printing the contents of I/O buffers. The output buffer(s) are flushed before entry to Mantrap.
3. FORMAT statements are fully analyzed by the compiler. Any FORMAT error (variable or otherwise) is diagnosed by the library before MANTRAP is entered. If any other users desire these two features I should be grateful if they could contact me, or the Editor.
4. The 'loss' of the load map is the worst aspect of Mantrap (although Mantrap makes a map unnecessary for most jobs). I hope to resolve this problem - but a solution may be some way off.
5. A command file seems to be a reasonable feature for an interactive version.

I should like to hear the views of other users on the current state of Mantrap and possible extension to it. Users should not be reluctant to complain about Mantrap when it does not work (although it is true that it can do no more than a person could do - and cannot analyze all errors). I know of no errors in the current version, although several unreported (and rather serious) errors did exist in earlier versions.

C. Schofield

PRODUCTION USAGE SUMMARIES

	February, 1978	February, 1977
CDC Cyber 74		
Number of Batch jobs and MIRJE sessions	106,419 (117,171)	81,950 (95,171)
Total Central processor hours inc. DELAY	188 (237)	148 (196)
DELAY queue processor hours	54 (57)	-
MIRJE terminal hours	8,152 (9,751)	-
Mass storage transfers (KPR)	266,168 (337,348)	165,192 (216,861)
Magnetic tape transfers (KPR)	6,691 (9,014)	4,868 (6,780)
Pages printed, charged from UCC	937,321 (1,024,173)	744,419 (844,560)
Cards punched	443,998 (459,919)	335,563 (366,606)
Microfilm frames produced	11,362 (296,858)	43,518 (276,771)
Status plotting production (feet)	6,816	6,453
Tapes mounted	8,853	8,161
Average file storage (2210M available)	1,396.9 million char	802.6 million char
Mean time between failures	11.4 hours	35.6 hours
Available during scheduled hours	97.3 percent	98.1 percent
SUPIO uptime during available hours	97.2 percent	-
(totals in parentheses include staff development, accounting, and maintenance runs)		
CDC 6400		
Number of jobs run	197,100	164,199
Central processor hours	122	100
MERITSS terminal hours	26,336	22,190
Number of terminal sessions	51,622	42,895
Maximum number of simultaneous users	126	106
Average file storage	252.2 million char	238.0 million char
Mean time between failures	44.0 hours	52.4 hours
Available during scheduled hours	98.9 percent	99.1 percent

CYBER 74 DOWNTIME SUMMARY : March, 1978

	Monday-Friday 0800-1800	other	total
Total possible scheduled uptime hours	230.	307.	537.
Total downtime hours (see Schedule A)	9.1	5.7	14.8
Total uptime hours	220.9	301.3	522.2
Uptime percentage	96.0 percent	98.1 percent	97.2 percent
Average downtime per occurrence	28.6 minutes	57.2 minutes	35.4 minutes
Mean time between failures	12.8 hours	61.4 hours	23.3 hours
Subsystem failures			
SUPIO	2	1	3
TELEX	0	1	1
EXPORT	12	0	12

Schedule A: downtime hours

	Number	Total hours	Average minutes
(1) Preventive maintenance over-runs	1	0.1	8.0
(2) Software related problems	5	0.9	10.2
(3) Hardware related problems*	13	11.8	54.5
(4) Indeterminate software/hardware problems	3	0.7	13.7
(5) External Problems	2	1.3	38.5

*Intermittent hardware failures continued during the first week of March. On Saturday, March 11, the Cyber 74 was shut down early to allow Control Data engineers to take corrective action. Since March 11, the machine has been more stable. Of the 14.8 hours of downtime this month, 5 failures accounted for 11.2 hours: component failure in display console (5 hrs, 28 min), ECS failure (1 hr, 13 min), water pressure problem (1 hr, 7 min), 2 disk file reloads (3 hrs, 26 min).

SPRING QUARTER 1978 SHORT COURSE SCHEDULE

Form is: Course, Days, Time, Dates, Location, Instructor.

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Introduction to UCC.....: th, 2:15-4pm, 30 Mar, Exp. 193, RTF
Introduction to System 2000.: mwf, 2:15-4pm, 3-14 Apr, Lind H 54, JC
LISP.....: mwf, 3:15-5pm, 3-21 Apr, Lind H 320, JH
Intermediate FORTRAN.....: tth, 6:15-8pm, 4-27 Apr, Lind H 54, RTF
KRONOS Control Statements....: tth, 2:15-4pm, 4-25 Apr, Green H 211, RTF
KCL and Procedure files.....: th, 2:15-4pm, 27 Apr, Green H 211, RTF
Introduction to Timesharing.: mw, 2:15-4pm, 10-12 Apr, Bleg H 420, RTF
Beginning COMPASS.....: mwf, 2:15-4pm, 17-28 Apr, Lind H 54, KCM
System 2000/Report Writer....: mwf, 2:15-4pm, 17-21 Apr, MinMet 116, JC
Spring Quarter Users Meeting: th, 1:15-4pm, 17 May, SoilSci 115 *
Pascal.....: mwf, 3:15-5pm, 24 Apr - 12 May, Aero 21, ABM
Sort/Merge.....: mwf, 2:15-4pm, 24-28 Apr, Aero 211, SR
COBOL.....: mwf, 2:15-4pm, 24 Apr - 12 May, MinMet 116, JC
MODIFY.....: mwf, 2:15-4pm, 1-5 May, Aero 211, RTF
Record Manager.....: mwf, 2:15-4pm, 1-5 May, MinMet 120, SR *
Introduction to Timesharing.: tth, 2:15-4pm, 2-4 May, Green H 211, RTF
ARCHIVE.....: t, 3:15-5pm, 2-9 May, Ford H 40, JPS
System Enhancement.....: m, 2:15-4pm, 8 May, Mech E 302
Graphing Packages.....: twth, 7:30-9:30pm, 9-11 May, Laud Conf Rm, KM
Advanced FORTRAN.....: tth, 2:15-4pm, 9 May - 1 Jun, Ex 193, RTF
System 2000/PLI.....: mwf, 2:15-4pm, 15-19 May, Lind H 54, SPN
SPSS (computer neophytes)....: m, 2:15-3:30, 15 May, Mech E 18, SPY
SPSS (SPSS neophytes).....: t, 2:15-3:30, 16 May, Mech E 18, SPY
SPSS (SPSS intermediates)....: wth, 2:15-3:30, 17-18 May, Mech E 18, SPY
SPSS On Line.....: f, 2:15-3:30, 19 May, Mech E 18, SPY
SNOBOL.....: mwf, 3:15-5pm, 15-26 May, Lind H 320, JPS
System Enhancement.....: t, 2:15-4pm, 23 May, Lind H 54
SPSS crosstabs.....: t, 2:15-3:30pm, 30 May, Lind H 54, SPY
SPSS regression.....: th, 2:15-3:30pm, 1 June, Lind H 54, SPY
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(asterisk (*) after course indicates change from first publication)

RETURN TO:

UNIVERSITY COMPUTER CENTER
 227 EXPERIMENTAL ENGINEERING
 UNIVERSITY OF MINNESOTA - TWIN CITIES
 208 UNION STREET SE
 MINNEAPOLIS, MINNESOTA 55455

UNIVERSITY ARCHIVES
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 EAST BANK CAMPUS