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DEADLINE FOR THE MAY ISSUE IS APRIL 23rd.

BULLETINS

THE SPRING QUARTER USER MEETING

It IS to take place on Thursday, May 17 in Room 10 Blegen Hall (other notices to the contrary, see page 28).

↳ New course on magnetic tape interchange -- see page 30.

↳ Changed course on microcomputers; same time, different topics: see page 28.

↳ We have a revised WRITEUP document on AROUTE & ASEND -- see page 28.

UCC newsletter

Volume 13 Number 4 April, 1979

Director: Peter C. Patton
Editor: Amy Koepeke

Comments about the content of this newsletter, or suggestions for changes may be directed to the editor, 235a Experimental Engineering, 612/373-7744.

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, or national origin.

from user services

I would like, this month, to call your attention to the changing profile of the services we offer to you, particularly in consulting services.

Up to a few years ago, we concentrated on building up our strength in centralized general consulting. As you know, we offer 76 hours of face-to-face consulting and 40 hours of telephone consulting each week during the three major academic quarters, with somewhat fewer hours during summer sessions and vacation periods. A few years ago, our Information Systems Division began to offer telephone consulting on data base systems with opportunity for face-to-face consulting by appointment. This service is supported, in part, by funds from user's projects.

Consulting for users of statistical programs and packages has varied from year to year. For several years we were able to fund a substantial specialized consulting service for these users. When these funds were no longer available, we diverted a small amount of the time of our general consulting staff to specialized statistical package consulting. To do this efficiently, those staff members who had a particular interest in statistical packages were assigned to the statistical package consulting desk for 6 hours per week. Some departments offer statistical package consulting to their own members. The Applied Statistics Department continues to offer advice in statistics to students and researchers in other departments, but reports that it cannot offer much help in using general statistical computer programs and packages.

The users of statistical packages tend to lean very heavily on consulting services. It is clear that 6 hours per week is not enough to help all those statistical package users who are not being helped in their own departments. Therefore, we have expanded consulting in this area for the current academic quarter. (See page nn.)

Specialized consulting is also available for interactive raster graphics at the Special Interactive Computations Laboratory (SICL) of UCC, where both development and advice can be found. This area is supported in part, as is data base consulting, by user's projects.

As is true of every service in the University, our only constraints are budgetary. Despite these constraints, we continue to try to improve, even to expand, our user services.

T.D. Hodge, 373-4599

new equipment

UCC's Engineering Division has completed evaluations of CRT terminals. The bid has been awarded to Datamedia Corporation for the Datamedia 1521A. This terminal offers full upper/lower case ASCII characters; x-y addressable cursor; 24 lines with 80 characters per line; selectable speeds from 50 to 9600 bits/second with any seven speeds preset; numeric keypad; and editing capabilities. Contact Amy Koepke at 373-7744 for more information and a sample requisition form.

financial report

July 1, 1978 through December 31, 1978

Our accounting system, modeled on the sophisticated cost accounting system used by University hospitals, has just provided our first semi-annual financial performance report. Our new reporting schema distributes UCC expenses three different ways:

1. Salary expense versus other expense splits 51% to 49%.
2. Instructional versus non-instructional computing expense splits 41% to 59%.
3. In terms of production factors, the expenditure distribution is:

Overhead	9%
Production	60%
Maintenance	22%
Development	9%

The ratio of salary to other expense approximates the traditional one-to-one ratio that has been typical of university academic computer centers for many years. The slight imbalance in this ratio will almost certainly grow as inflationary pressures push salaries up.

The 41% - 59% split between instructional and non-instructional support expenses, including research and public service, has not changed over recent years. Although we have never been able to account for these costs to the current level of accuracy (i.e., capturing data starting at the transaction level), this ratio has been at about the 40% to 60% level for years. The research and public service portions of our activity have continued to grow: the first half of this year, research income grew 23% and public service grew 52%, but on a much smaller base than research. Last year, research computing grew by 27% and public service by 22%. Instructional computing showed only modest growth.

We are especially happy with the production analysis showing that sixty percent of UCC activity is devoted to production and only 22% to maintenance. The 9% cost of overhead is encouragingly low and 9% or 10% is the minimum any high technology operation should spend on development.

P.C. Patton, 373-4361

reduced rates

In the past several months, the use of delay computing has doubled from the corresponding months of a year ago. Our operations group has frequently worked beyond the normal assigned hours to get these jobs finished: this entails overtime and disruption of maintenance and system staff use on the Cybers. Because of this heavy demand for delay time, we have changed the week night

starting time for delay processing from Midnight to 11:00 PM. Saturday and Sunday will continue to be at the money saving delay rates.

Previously, interactive processing during delay time was not given delay rates since the resources required by timesharing justified the standard rate. But, in order to reduce your costs, we are immediately switching to delay rates for interactive use during delay hours. Please note that you MUST log-in after the delay period has started in order to receive the lower rate, since the log-in time is used to distinguish between standard rates and delay rates.

Current computer SRU rates for the Cyber 74/172 are:

	University	Commercial
NORMAL	\$0.16	\$0.25
DELAY	\$0.11	\$0.20

Finally, we want to announce that the computer rates for next year WILL NOT increase as far as is known at this time. In fact, we have scheduled a 10% REDUCTION in charges for mass storage (MS), starting July 1, 1979.

L.A. Liddiard, 373-5239

plotting

On March 8, a new version of PLOT31 was placed on the system. The major new feature in this version is the implementation of automatic end-of-job routing of the PLOTS file for those of you who submit jobs on cards. This new feature, which was previously available under the KRONOS system, means that batch origin PLOT31 job decks no longer need a ROUTE control statement to generate plots. The PLOTS file will be routed to the bin card site if the job has a bin card, or to the job's origin site if the job does not have a bin card. If you write your own plotting data to the PLOTS file before calling PLOT31, you should first run PLOT31 to create an empty PLOTS file so that the deferred routing is handled correctly.

If you do not want plots to be automatically generated, put a

```
ROUTE(PLOTS,DC=SC)
```

control statement at some point in your deck after the PLOT31 control statement. This rescinds the automatic routing. If you want your plots returned to a site other than that designated by the bin card or origin site, include a:

```
ROUTE(PLOTS,DC=PL,TID=ss,BIN=bbbb)
```

control statement after the PLOT31 control statement.

This change does not affect interactive or submitted PLOT31 jobs. If you have any questions, please call:

D. Germann, 376-5262

fortran

In our article announcing the availability of the M77 FORTRAN compiler, which matches the latest FORTRAN standard, we forgot to mention that the MNF and M77 library routines are NOT compatible. If you use previously compiled MNF routines or libraries with the new M77 compiler, you will usually encounter errors that will prevent successful job runs. Since the main file setup routines, coded and and binary routines including ENCODE and DECODE, TRACE, and MANTRAP all differ between MNF and M77, the two compilers are fairly incompatible.

See the February newsletter for the details on using M77. Remember, in addition to a refund when you discover an error, you get a \$2.00 credit for each new error that was not documented in the PTR list for M77.

L.A. Liddiard, 373-5239

suggestion box

FIX THE WYBRITE INTERPRETER.

G.M.

There has been a design problem with the interpreter in Experimental Engineering. This has now been corrected. Problems with any of the machines in Experimental should be reported to the operators in room 131. Your cooperation will help keep the machines in working order.

R. Fleagle

THERE IS A NEED FOR MORE KEYPUNCHES AS WELL AS ON-LINE TERMINALS. ISOLATED KEYPUNCHES AND TERMINALS DO NOT IMPROVE THE SITUATION. I SUGGEST THAT AT LEAST 20 ON-LINE TERMINALS AND 20 KEYPUNCHES BE INSTALLED IMMEDIATELY.

W.R.

We fully agree with your appraisal of the keypunch situation. We have been involved in a keypunch conversion: converting 026 to 029 punches. Since punch machines must be removed for conversion, we have been moving machines around as necessary. This redistribution means a shortage of punches at some sites at some times. We are sorry for this inconvenience but available funds prohibited any other solution. When we are finished, there will be fourteen 029 keypunches at Experimental Engineering.

R. Franta

Please refer to the Operations page of this newsletter for a list of on-line terminal locations. Several of these locations have many terminals, others have only one or two. While most of the terminals are permanently on-line (hardwired) to one computer, the 6400, at least one terminal in each location can be used to access the Cybers. Also, we are experimenting with a dial-up terminal at each of our general consulting stations.

T. Hodge

stat consulting

The new, expanded statistical consulting hours in 140 Experimental Engineering for Spring Quarter are from 11:00 AM to 1:00 PM Monday through Friday.

Statistical consulting, as provided by UCC consultants, is restricted to providing help with the statistical program or package that the user has chosen. This includes interpretation of the instructions for running the program and debugging assistance.

There will be limited telephone consulting hours in the near future; these hours will be announced in the UCC Newsletter when the telephone is available.

documentation

WRITEUP documents new or modified after January 1, 1979:

ARCHIST Archived file listing
AROUTE Move print or plot files from the 6400
ASEND Move files from the 6400 to the Cyber
BLANK Initial label writing.
CLASSES Short course information.
CODING NOS coding conventions
CONSKED Consulting schedule.
DELAY Describes delay queue feature.
DOCLIST UCC documentation list.
MFEBR Microfilm printing.
M77 New FORTRAN compiler
NEWFMT New FMT conversion guide.
PASCAL Pascal 6000 release 3.
PASCLIB Pascal library information.
PTOOLS Pascal software writing tools.
PTRM77 ANSI 1977 standard FORTRAN bugs.
PTRNOS NOS operating system bugs.
SEND Send files to the 6400

New or revised printed publications:

The WRITEUP documents PASCAL, PASCLIB, PTOOLS, and PROSE have been printed; copies are available in 140 ExpEng.

arts & humanities

Arts and Humanities Readers:

The special Arts and Humanities newsletter is not being distributed via the UCC Newsletter mailing list. If you would like to receive copies of this new newsletter, please call 373-7744.

Vicky Walsh, Classics Department, is willing to consult with computer users from the Arts and Humanities: call 373-0186.

brief

The new standard FORTRAN compiler, M77, was made available as a FETCH version on March 1, 1979.

A new course, "INTRODUCTION TO MICROCOMPUTERS," will replace the "INTRODUCTION TO TERA MICROCOMPUTERS."

May 7 - 18 (MWF)
3:15 - 5:00 PM
Room 5 Architecture

This course will have the following schedule:

Mon, May 7: General introduction
Wed, May 9: The APPLE II
Fri, May 11: Pascal operating system-TERAK
Mon, May 14: The IBM 5100
Wed, May 16: RT-11 operating system-TERAK
Fri, May 18: To be announced

If you read the announcements in the March newsletter concerning the Spring Quarter User Meeting, you should be thoroughly confused. The date and time as announced in the short course schedule is CORRECT: please ignore all the other incorrect information. These errors were the responsibility of the editor of this newsletter and due entirely to careless proofreading. My apologies.

We would like to again remind you of the UCC Computer Store. Hours are 1:00 PM - 3:00 PM Monday through Friday. Stop in Room 227 ExpEng to get a copy of the catalog and price list.

PRODUCTION USAGE SUMMARIES
Cyber 74/172

	Cyber 74/172 February, 1979	Cyber 74 February, 1978
System resource units (SRU)	1,197,409 (1,566,966)	-
Batch jobs and MIRJE sessions	111,269 (121,759)	106,419 (117,171)
Central processor hours inc. DELAY	194/100 (210/219)	188 (237)
DELAY queue processor hours	71/20 (72/30)	54 (57)
MIRJE terminal hours	10,402 (12,220)	8,152 (9,751)
Mass storage transfers (KPR)	360,631 (462,143)	266,168 (337,348)
Magnetic tape transfers (KPR)	7,523 (12,489)	6,691 (9,014)
Pages printed, charged from UCC	1,030,681 (1,141,221)	937,321 (1,024,173)
Cards punched	352,512 (470,186)	443,998 (459,919)
Microfilm frames produced	18,403 (375,425)	11,362 (296,858)
Status plotting production (feet)	7,165	6,816
Tapes mounted	11,912	8,853
Average file storage (char)	2,031.7 million	1,396.9 million
Mean time between failures	160.0/239.5 hours	11.4 hours
Available during scheduled hours	99.8/99.9 percent	97.3 percent
SUPIO uptime during available hours	95.5 percent	97.2 percent

(totals in parentheses include staff development, accounting, and maintenance runs)

DOWNTIME SUMMARY: March, 1979 (Column 1, Cyber 74 : Column 2, Cyber 172)

	Monday-Friday 0800-1800		other		total	
Total possible scheduled uptime hours	220.0	220.0	316.0	316.0	536.0	536.0
Total downtime hours (see Schedule A)	1.1	1.4	0.6	0.0	1.7	1.4
Total uptime hours	218.9	218.6	315.4	316.0	534.3	534.6
Uptime (percent)	99.5	99.4	99.8	100.0	99.7	99.7
Average downtime per occurrence (min)	22.7	11.6	18.0	-	20.8	11.6
Mean time between failures (hours)	73.3	31.4	158.0	-	107.2	76.6
Subsystem failures						
SUPIO	5	-	5	-	10	-
TELEX	0	0	0	0	0	0
EXPORT	4	-	7	-	11	-

Schedule A: downtime hours

	Number	Total hours	Average minutes)			
(1) Preventive maintenance over-runs	0	0	0.0	0.0	0.0	0.0
(2) Software related problems	0	2	0.0	0.1	0.0	3.5
(3) Hardware related problems	3	4	0.7	0.4	15.0	5.8
(4) Indeterminate problems	2	1	1.0	0.9	30.0	51.0
(5) External Problems	0	0	0.0	0.0	0.0	0.0

PRODUCTION USAGE SUMMARIES
CDC 6400

	February, 1979)	February, 1978)
Number of jobs run	267,365	197,100
Central processor hours	161	122
MERITSS terminal hours	31,037	26,336
Number of terminal sessions	60,987	51,622
Maximum number of simultaneous users	146	126
Average file storage (char)	378.3 million	252.2 million
Mean time between failures	148.2 hours	44.0 hours
Available during scheduled hours	99.9 percent	98.9 percent

SUBMISSION SITE USAGE SUMMARY: TELEX EXCLUDED : March, 1979

submitted from	total jobs	%	pages printed	%	cards read	%
Lauderdale	3,344	4.0	462,343	32.8	2,152,183	19.2
ExpEng	6,160	7.4	258,540	18.3	1,652,071	14.7
West Bank	4,892	5.9	69,754	4.9	735,941	6.6
6400	493	0.6				
SUBMIT jobs	16,500	19.9				
SUPIO	51,622	62.2	619,194	43.9	6,679,215	59.5
TOTALS	83,011		1,409,831		11,219,410	

UCC Short Course Schedule for Spring 1979

Introduction to UCC (StP)....: 2:15-4pm, Mar 29 (th), AgEng 102, RTF
 Beginning COMPASS.....: 2:15-4pm, Apr 2 - 13 (mwf), Aero 309, KCM
 Record Manager.....: 2:15-4pm, Apr 2 - 6 (mwf), Aero 211, SAR
 BMDP.....: 2:15-4pm, Apr 2 - 6 (mwf), Ex 193, SPY
 NOS Control Statements.....: 2:15-4pm, Apr 3 - 24 (tth), MechE 18, RTF
 Sort/Merge.....: 2:15-4pm, Apr 3 - 5 (tth), Aero 321, SAR
 Intermediate FORTRAN.....: 6:15-8pm, Apr 3 - 26 (tth), Aero 21, RTF
 Computing: What is it: 2:15-4pm, Apr 9 - 13 (mwf), Arch 60, LF/SG
 Introduction to System 2000.: 2:15-4pm, Apr 9 - 20 (mwf), Aero 319, JCC
 Graphing Packages.....: 7:30-9:30pm, Apr 9 - 10 (mt), Laud*, KMM
 Pascal.....: 3:15-5pm, Apr 16 - May 4 (mwf), Ex 193, ABM
 Intro. to Timesharing (StP):. 2:15-4pm, Apr 16 - 18 (mw), BioSci 18, RTF
 SPSS (computer neophytes)...: 2:15-3:30pm, Apr 16 (m), VH 1, BH
 SPSS (SPSS neophytes).....: 2:15-3:30pm, Apr 17 (t), VH 1, BH
 SPSS (SPSS intermediates)...: 2:15-3:30pm, Apr 18 - 19 (wth), VH 1, BH
 SPSS On-Line.....: 2:15-3:30pm, Apr 20 (f), VH 1, BH
 Computing: What is it: 6:15-8pm, Apr 23 - May 7 (m), Arch 15, LF/SG
 System 2000/PLI.....: 2:15-4pm, Apr 23 - 27 (mwf), Aero 321, SPN
 Scientific Info Retrieval...: 2:15-4pm, Apr 24-May 3 (tth), Aero 321, JCC
 Tape formats for info transfer: 3:15-5pm, 25 Apr (w), Aero 225, SAR
 NOS Control Language.....: 2:15-4pm, Apr 26 (th), MechE 18, RTF
 Advanced FORTRAN.....: 2:15-4pm, Apr 30 - May 18 (mwf), Arch 45, RTF
 System 2000/Report Writer...: 2:15-4pm, Apr 30 - May 4 (mwf), Arch 60, JCC
 Introduction to Timesharing.: 2:15-4pm, May 1 - 3 (tth), Arch 40, RTF
 SPSS (descriptives).....: 2:15-3:30pm, May 1 (t), MechE 18, BH
 SPSS (Regression).....: 2:15-3:30pm, May 3 (th), MechE 18, BH
 COBOL.....: 3:15-5pm, May 7 - 25 (mwf), Arch 10, JCC
 Introduction to TERAk micros: 3:15-5pm, May 7 - 18 (mwf), Arch 5,
 SNOBOL.....: 3:15-5pm, May 7 - 18 (mwf), Arch 30, JPS
 DMS-170.....: 2:15-4pm, May 8 - 17 (tth), Arch 40, JCC
 System 2000 User Aids.....: 2:15-4pm, May 14 - 16 (mw), Aero 211, DK
 Spring Quarter Users Meeting: 2:15-4pm, May 17 (th), BlegH 10
 Advanced COBOL.....: 2:15-4pm, May 29 - 31 (twth), ChemE 50, JCC

* Lauderdale Conference Room, Lauderdale Computer Site, 2520 Broadway Dr.

NOTE: dollar sign (\$) indicates change since first publication.

NEW SHORT COURSE:

Using and creating non-CDC magnetic tapes

The seminar will cover the internal representation of data used by various manufacturers, and the different ways of formatting the data on magnetic tapes. There will be instruction on how to format tapes being sent to other installations and instruction on how to read tapes created at other installations.

The record formatting program, FORM, will be introduced.

The following reference material should be reviewed by all attendees:
 UCC User Manual Supplements: Guide to Magnetic Tapes and Guide to
 Record Manager
 FORM Version] Reference Manual (CDC pub.#60496200)

Day : April 25, 1979
 Time : 3:15-5:00 PM
 Room : 225 Aero
 Instructor: Steven Reisman

RETURN TO:

User Services
University Computer Center
227 Experimental Engineering
University of Minnesota
208 Union Street SE
Minneapolis, Minnesota 55455

UNIVERSITY ARCHIVES
11 WALTER LIBRARY
UNIVERSITY OF MINNESOTA
EAST BANK
117 PLEASANT STREET SE
MINNEAPOLIS MN 55455