PRENTICE COMPUTER CENTRE

UNIVERSITY OF QUEENSLAND, ST. LUCIA, QUEENSLAND, AUSTRALIA. 4067.

NEWSLETTER

N-271   22-February-82

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Authorized by the Director of the Computer Centre

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CONSULTING

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Operations and Programming

PROBLEM AREA	MAIL BOX	NAME AND EXTENSION	
Accounts	ACCOUNTS	Ms C. Walker	2188
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ERRATUM

In N-270, p. 8, the flag to "turn off bold" appeared as]*.   It should have read back-slash*.

1.0   1982 DEVELOPMENT

In Newsletter N-269 of 7 December, I outlined some developments for 1982 which had been approved by Senate. The variations to the accounting system to enable SLOTS pricing to apply to the VAX 11/780 and to provide a reduction of 15% in the charge for primary memory on the KL10 have been implemented as from 1.2.1982. Although additional equipment was ordered as soon as possible after financial approval, we are dependent upon deliveries from suppliers. Our latest advice is that the extensions to the MICOM system which will provide a further 200 lines will be delivered within the next two weeks. The additional 2Mb of primary memory for the VAX will be installed during March. Some additional disk space has already been provided on the VAX and installation of 2 x RP-07 drives on the KL, scheduled for May, should help ease pressure on file space on both machines.   We should, therefore, be in good shape to meet the end of semester peaks.

The reductions in computer charge rates will allow departments to increase computer usage without increasing expenditure. It is fair to mention to research workers that despite some increase in capacity on the VAX, we would expect the system to be heavily loaded with student work in the last three weeks of each semester.

It is very clear that there is a universal demand for greater computing capacity throughout the University for research, teaching and resource management systems. There is need also to replace the 14-year old KA10 system. Our hope is that the University will make equipment funds available to allow replacement and enhancement of this facility.

Nevertheless, a continuing problem to Departments and the Centre is for such capacity to be made available so that maximum use is made of the computing equipment for the teaching and research programmes of the University. My general observation is that we are again entering a situation similar to the circumstances of 1974 and 1978 when there was insufficient computing capacity and the resource allocation systems were subject to general criticism by the University community. I hope, on this occasion, we can within the University move somewhat faster to respond to these very basic problems and achieve a solution of lasting significance. I certainly will be trying.

I mentioned in the December and January newsletters that our staff resources are limited.   Indeed, our staff establishment to support the provision of central computer time is less now than in

1977, despite a significant increase in usage. It is not, however, our intention to limit our service but obviously there will be times when "we will be hanging by our finger tips". I would greatly appreciate the cooperation of all users in helping us to maintain a high grade of service and perhaps on those occasions when things do not go as they should, in extending a friendly and understanding attitude to our staff.

Director
extension 2189

2.0 $100 COMPUTER CENTRE ALLOCATIONS FOR TRIAL & PRACTICE

All $100 Computer Centre allocations to each department for use by staff for trial and practice have been re-instated for 1982. Project programmer numbers and passwords remain unchanged.

Carol Walker
extension 2188

3.0 KL FILE STORAGE

Any files on the KL online storage area not accessed since 1 January 1981 will be transferred to tape during March 1982. For any enquiries ring the Acting Operations Manager.

Sandra Campbell
extension 3471

4.0 STUDENT ACCOUNTING ON THE VAX

4.1 Introduction

A limited version of the student accounting system, presently available on the DEC-10s for control of computer usage by groups of students, is now available on the VAX.

It provides a class supervisor with the ability to set expenditure limits on a classwide or individual student basis. Unlike the student accounting available on the DEC-10s however, this expenditure is only updated each night. Also, by use of the CPU time limit available under VMS, it prevents a student overspending his limit on any one run through program loops etc.

The new system allocates a separate chargecode to each of the students and to the supervisor. The supervisor's chargecode is funded normally by submitting orders, and all billing is directed to it. An interactive program by the familiar (and misleading!) name of STUPID allows the supervisor to list the students' current expenditure and limits, and to set new limits. Checks exist to prevent unauthorized use of STUPID. Use of STUPID is discussed in a later section.

4.2 Setting Up Students

The username and chargecode of the supervisor should be established in the normal manner by lodging an application for a username and/or chargecode on the VAX with our accounts section. (An existing account may be used.)

Classes of students at the University of Queensland can be automatically setup by lodging the appropriate form with the specified course code. Subsequently a list of the usernames and passwords allocated can be collected. Alternatively, the names can be supplied by the supervisor.

4.3 From The Student's Viewpoint

When logging in the student's current money balance and CPU limit is shown. The CPU limit is calculated from the lesser of the student's money balance or the general $3 limit. The CPU time equivalent of HALF of this amount then becomes the limit. This is to allow for non-CPU charges such as file I/O, printing etc. It is not possible to set a lower or higher limit on an interactive job, but a submitted batch job may have a CPU limit specified provided it is lower than the student's actual limit as calculated above.

Thereafter use of CPU time or money can be obtained using the commands (or abbreviations)

$SHOW PROCESS/ACCOUNT

or

$COST

Note that both these commands destroy the user's core image so you can't control-Y out of an editor, issue them and hope to 'CONTINUE'.

In the event of exceeding your CPU limit, the system stops you with the message

%SYSTEM-F-EXCPUTIM, CPU time limit exceeded

You then have no option but to logout. If you were in the middle of an edit, the latest version of the file may be empty, so on next logging in you may have to delete it. You can check this by issuing the command

$DIRECTORY/SIZE

and looking for files with zero blocks allocated.

4.4 Using STUPID

To run STUPID you must login on the username you have designated as the supervisor, and simply issue the following command

$STUPID

You will then be prompted with an '*' preceeded by a message suggesting that you type 'HELP'. If you take this suggestion you will see that the valid commands are:

LIST	-	to list all students and their limits
UPDATE	-	to update student expenditure limits
RESET	-	to clear current limits
EXIT	-	to exit from the program
HELP	-	to get this message

Note that any changes made using the program are not done immediately. Rather they are made every hour by a Centre run batch job.

4.4.1 LIST -

This command creates a file called STUACC.LIS which lists the following information for each student

    a) charge code

    b) username

    c) amount already spent

    d) expenditure limit

This file can then be PRINTed or TYPEd after exiting from STUPID.

4.4.2 UPDATE -

Once in update mode (achieved by typing UPDATE in response to the '*' prompt) there are two update types available; the first is to update ALL students, the other is to update students individually.

    (a)   To update a particular student, simply type his/her chargecode in response to the update mode prompt 'Student charge code: '. The four fields mentioned above in LIST will be displayed on the user's terminal followed by a request for a new expenditure limit. The new expenditure limit can be given in either absolute or relative terms. To give a new absolute limit, simply type in the new limit. To give a relative limit, precede the amount by an explicit '+' or '-' sign and the new limit will be set equal to the current limit plus the input value. (Note that the plus sign must be explicit, otherwise the value will be taken to be the ABSOLUTE new expenditure limit.) The new expenditure limit will be typed in order to inform the user of the change.

    (b)   In response to the prompt 'Student charge code: ', it is also legitimate to type an asterisk (i.e. '*') which implies that you wish to update all the students. The new expenditure limit will then be prompted for.

To exit from update mode, simply type (cr) or ^Z in response to the prompt 'Student charge code: '. You should then leave the program with the EXIT command.

4.4.3 RESET -

After an assignment has been completed the expenditure to date and limits of all students should be zeroed. The UPDATE command can then be used to set limits appropriate for the coming assignment. Like the UPDATE command, RESET prompts for the student chargecode and accepts either an '*' to mean the whole class or an individual student chargecode.

4.4.4 Examples -

To obtain a listing of all students and their limits

```
$STUPID

Type "HELP" for help
*LIST
[Listing file STUACC.LIS created]

*EX
$PRINT STUACC.LIS
```

To reset all students prior to a new assignment

```
$STUPID

Type "HELP" for help
*RESET
Student chargecode: *
[Updates will be done in the next hour]

*EXIT
```

To give the student BROWN who has chargecode 170 another five dollars

```
$STUPID

Type "HELP" for help
*UPDATE
Student chargecode: 170
Chargecode: 170  Already spent: 3.70  Exp. limit: 15.0
User: BROWNJ
New exp. limit: +10.0
Chargecode: 170  Already spent: 3.70  Exp. limit: 25.0
User: BROWNJ
```

Student chargecode:
[Updates will be done in the next hour]

*EXIT

Chris McGovern
extension 2958

5.0 QEDIT FOR THE VAX 11-780 VERSION 2

QEDIT is the University of Queensland's standard editor and is executed with the commands EDIT or CREATE on the KA and KL.

QEDIT is also available on the VAX 11/780. It is executed with the command:-

QEDIT filespec

Differences between the 10 and VAX versions

1. Not all QEDIT commands have been implemented and an "UNKNOWN COMMAND" or "NOT YET PROGRAMMED" message will be obtained if such a command is given.

2. A basic difference is that a paging file is not set up. Only 4000 bytes are kept in core and it is not possible to move above ***TOP OF BLOCK. As the pointer moves down the file, lines are read into the incore block. When it is full, lines are written out to the new file. The forward movement is transparent. If the portion above ***TOP OF BLOCK has to be edited then the SAVE command should be used to complete writing out the current edited file and reenter at its top. If the incore block is full then it is not possible to insert lines above the top line in the block, or to increase the length of this line. If this happens a "NO ROOM" message will be obtained. Editing further down the file can however be continued after this error message.

3. No BAK file is used in this editor. This is because the VAX system automatically creates new files with a version number one greater than the current latest version number.

   The actual process used in QEDIT is to read from the designated input file and output to QEDIT.TMP in the users area. When a FILE or SAVE command is given QEDIT.TMP is completed, closed and then renamed to the file name required. If this is impossible e.g. if a version number is specified and this version exists and can not be superseded, then the

file remains as QEDIT.TMP and an error message is given. The user will then have to take action at VAX command level to obtain the desired result.

Note however that PUT creates it's output file directly with the name supplied.

The files to be edited (and output) are assumed to be ASCII files of maximum line length 132 characters. Fortran 'LIST' format is used so that (CR) and (LF) are not stored in the file.

4. Particular command differences are:

SAVE   The current line number is output, the output file completed, and the file reentered at its top. The LINE command can be used to get back where you were if required, although it is thought that SAVE would mainly be used to get back to the top of the file.

CHANGE,ALLCHANGE the ... option in string1 available in the PDP 11/34 editor has been implemented, e.g. C /ABC...DEF/XYZ will change ABCanythingDEF to XYZ.

(RETURN) A (RETURN) in column 1 when at command level is equivalent to NEXT 1.

(ESC)   An (ESC) in column 1 when at command level is equivalent to UP 1.

BOTTOM   Minimum abbreviation for this command is now BOT because this moves to bottom of file leaving the top of a long file inaccessible until a SAVE is used.

NOWRITE This new command suppresses the creation of an output file during editing. This is a fast and economical way of inspecting files.

Strings   may be anchored in column 1 by using a (TAB) as a delimiter, e.g. L (TAB)string locates a line with the string starting in column 1. This is equivalent to the unimplemented PDP-10 LABel command.

Strings   may be anchored at the last column by using a (LF) as a delimiter, e.g. L (LF)string locates a line with the string ending in the last column.

The above anchored strings are used with all commands that use strings.

The program will query the user if a string delimiter in most commands is not (/),(?),(TAB),(),(.) or (LF). This is in case an error has been made which would cause a movement to the bottom of the file. The program echoes the string and asks for confirmation that it has it correct.

(ESC)'s can be included in lines provided they are not in column 1. They are echoed as $ on input but are not shown on the terminal in output.

5. Encouraging dots are printed every 100 lines in LOCATEs, NEXTs, etc.

6. Remember that a LOCATE or CHANGE on all lines will move through to the end of the file if an incorrect string is specified. Note that SEARCH n /string/ can be used to limit the length of a search (LOCATE) for a string.

7. Two extra spaces are output after prompts so as to make it easier to see them on LA34/120 terminals.

8. Unimplemented Commands. Currently the following commands are unimplemented: SET CONCATENATE SPLIT MACRO PREPEND
   LABEL STATEMENT PERFORM DISPLAY
   EXECUTE HELP JOBBALANCE JOBTIM RUN TRANSLATE

9. The following extensions are in hand:

   Multiple commands on a line

Leonie Roberts
extension 3493

6.0 VAX SPSS

The following is a list of errors or problems known to exist in Release 8.1 of SPSS for VAX/VMS operating systems.

SAVE ARCHIVE

Does not work correctly when a DOCUMENT command is included in the file to be saved.
NO FIX CURRENTLY AVAILABLE.

Matrix Input

Matrices with more than 16 variables are not read correctly.
FIX AVAILABLE, will be corrected in Release 9.0.

N oF CASES UNKNOWN

Causes the end-of-file to be lost, allowing the program to loop indefinitely when END INPUT DATA is not used at the end of the data. Occurs both when data is in the command file and when data is separate from the commands.
FIX AVAILABLE, will be corrected in Release 9.0.

RECODE (CONVERT)

The CONVERT facility recodes the digits 0-9 and the minus sign (-) as described in **SPSS**, Second Edition. Other special characters are not recoded as described.
FIX AVAILABLE, will be corrected in Release 9.0.

Non-existent Control Files

If the control file is not found, a FORTRAN error is generated. This has been rectified.

Short Records

A Warning Message for each short data record is produced. These messages are now suppressed.

Leonie Roberts
extension 3943

7.0 NEW ACCOUNTING PROCEDURES

The charging and accounting system used by the Centre was originally developed on the KA-10 in 1969 to account for machine use only. Over the intervening years, it has been variously modified, extended to handle new services (e.g. data entry, contract work etc.) and transferred to new machines as they were installed. However, this system still incorporates some accounting procedures and conventions which were accepted in its early years.

Since that time (in the mid-seventies) the Bursar's office has designed and implemented the general ledger accounting system (QUBAC) at the University of Queensland. QUBAC, too, has been extended and enhanced by further developments over the years and naturally now sets the standard for accounting procedures at Queensland University. The latest QUBAC development, to be released on 1 April, is the Departmental (or Sibling) accounting mechanism. This allows each department to structure and obtain analysis of its own expenditures in terms of its own departmental codes but within the framework of the QUBAC system.

To enable computing charges and other expenditures with the Computer Centre to be correctly accounted for in a departments sibling account structure, it was necessary to make fairly extensive changes to the Centre's accounting system - both computer program and procedural changes. And given the extent of this surgery, we took the opportunity to consolidate our accounting into a single system, bring it up-to-date with accepted practice and conform to the Bursar's

requirements of financial delegation and audit.

The immediate, visible effects of this work for the user are some changes to the forms and procedures used to obtain services from the Centre.

7.1 New Order Forms

New order forms for computer use have now been printed with provision for sibling codes. These forms authorise funds for use of the central machines including the charges for file storage, tape and disk rentals, disk pack storage and file back-up runs.

A block of new order forms, together with an explanatory note will be sent to each department and other clients who may be effected. On receipt of the new forms, any old order forms should be DESTROYED and only the new forms used from that time on. Further blocks of new forms can be purchased by Queensland University departments from the stationery store, by Griffith University divisions from the Computer Services operator and by others from the Computer Centre.

7.2 Supplies And Equipment Requisitions

During the early years of the Centre's accounting system, a rather loose practice developed which allowed the charging of supplies (e.g. manuals) and services (e.g. card punching and data entry) against machine use charge codes. As such charges now may contravene the allowable expenditure types for a QUBAC account and must now be able to carry individual sibling account codes, this practice will be discontinued from 1 April, 1982.

From that date, supplies and items of equipment can be obtained by a requisition which

(a) nominates a QUBAC account for payment (NOT a machine charge code)

(b) carries a sibling account code (if desired)

(c) is authorised by the financial delegate for the department.

A new requisition form (which consolidates a number of existing forms) is available from the Computer Centre for departments of Queensland University. Other clients will continue to be billed for these items via monthly invoice.

7.3 Small Job Order Form

As announced in a previous newsletter (N-266) the Centre has already introduced a simple mechanism for handling small jobs which require staff time (as well as machine time and for materials) such as tape conversions, data entry, small programming jobs and engineering maintenance and repair tasks. This mechanism has operated successfully for several months and is now being formalised as a "Small Job Order" form. Like the requisition above, this form must be completed with a description of the work required, a QUBAC account for payment (NOT machine charge-code), a sibling code (if desired), and signed by the authorized financial delegate of the department. Again this one form will replace several forms previously used.

7.4 Monthly Statements Of Account

In December 1981 all departments of the University of Queensland were advised that, with the introduction of the sibling accounts system, the Centre planned to discontinue the production of departmental monthly statements of account. The basis of this decision is that details of computer expenditure will be available on a much more up-to-date basis via the QUBAC sibling accounts and the Centre, like all other elements of the University, must cut costs. The regular Computer Centre monthly statements of account will therefore be discontinued after that for June 1982.

7.5 Summary

As outlined above, the main objectives of these changes is to

(a) interface the Centre's accounting system to the new QUBAC sibling accounts

(b) rationalise the Centre's accounting mechanisms and procedures in terms of the University's general accounting system

(c) try to save time and costs for both our users and ourselves.

We will be monitoring the operation of this new system closely over the coming months to resolve problems as they arise and try to ensure that these objectives are realised.

John Noad
Deputy Director
extension 3017

8.0 INFORMATION CONCERNING COURSES

Below are listed the schedule of courses for the period up till the beginning of second semester.

Details of the contents of individual courses are given in N-270.

8.1 General Notes

(i) Enrolment is free for staff and post-graduate students of both the University of Queensland and Griffith University. All others are required to pay a prescribed fee.

(ii) All courses listed below will be held in the **Client Room, Hawken Building**.

(iii) The schedule below may also be obtained by giving the command

TYPE (or PRINT) HLP:COURSE.HLP

8.2 Schedule

March

Demonstration of alternative : March 23
   version of RUNOFF   2.30-4.30pm

Introduction to PDP-10 : March 24-25
    2 full days 9-12am+2-5pm each day

SPSS : March 29 - April 2
    5 half days 9-12.30pm each day

April

BASIC Programming : April 6-8
    3 full days 9-12am+2-5pm each day

Statpack : April 14-15
    2 half days 2-4pm each day

RUNOFF : April 19-23
    5 half days 9-12am each day

SPSS	: April 19-23 5 half days 1.30-5pm each day

May

FORTRAN Programing	: May 10-14 5 full days 9-12am+2-5pm each day
VG	: May 24-28 5 half days 9-12am each day
1022	: May 24-28 5 half days 2-5pm each day

June

Introduction to PDP-10	: June 7-8 2 full days 9-12am+2-5pm each day
Statpack	: June 9 1 full day 10-12am + 2-4pm
Introduction to PDP-10	: June 10-11 2 full days 9-12am+2-5pm each day
BASIC Programming	: June 16-18 3 full days 9-12am+2-5pm each day
RUNOFF	: June 21-23 3 full days 9-12am+2-5pm each day
SPSS	: June 29-July 1 3 full days 9-12am+2-5pm each day

July

VAX Conversion Course	: July 2 1 full day 9-12am + 2-5pm
FORTRAN Programming	: July 5-9 5 full days 9-12am+2-5pm each day
Plotting/Graphics	: during week July 12-16 Details to be finalised.

8.3 Enrolments And Enquiries

To enrol for any course, please contact extension 3018.

Barry Maher
extension 3021

9.0 DEPARTMENTAL EQUIPMENT FOR SALE

Clinical Sciences - contact Rick Mack 525561 x74

2 x 16Kw (MS11) Mos Memory boards for PDP11
1 x 32Kw (MSV11-CD) Mos Memory board for PDP11
Tektronix Mod. 4662 XY plotter, little use - cost $4500, now
$2500 ono.

Anthropology & Sociology - contact Paul Hewitt x3151

DIABLO 1620, good condition.

Surveying - contact Dr G. Dowedeit x3013

4K of memory for PDP8.

Central Library - contact Simon McMillan x3805

PDP-11 Modules

2 x 16K Mos Unibus Memory Modules (M7847) for PDP11
1 x Parity Module (M7850) for PDP11
1 x Dual Floppy Disk Drive + Controller for PDP11 QBOS. DSD
440-L11-2B

    If you have modules and peripherals which are no longer required but may be of use to other departments or may be saleable outside please advise us by MAIL to ENGIN or MAINT or contact Maralyn Kenley on extension 3938.

                                      Graham Rees
                                      extension 3288

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