USER SERVICES from an EXPERIENCED USER

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INTRODUCTION

You, as User Services Professionals, represent the primary source of contact between the University Computer Center and its users, who are primarily students. For a novice user, all you need to do is provide the information he needs to run a simple job, and help if he has problems with the system.

A more experienced user expects a lot more from User Services, however. The problem is to provide it in an organized manner, and to know that all aspects of User Services are functioning properly.

To aid in this evaluation of your program, I will look at the performance of User Services in three areas. Following this, I present a formal organizational plan which consists of: User Services professionals; student consultants (usually graduate students); faculty; I/O operators (usually undergraduate students); and the Student Chapter of the ACM.

PERFORMANCE

Users have contact with the computer center in three places. First of all, he encounters the I/O operators - those people who read his job into the system, and hand him his output. This is the first level of contact, and we wonder: What does an I/O operator need to know?

Secondly, the user encounters the "consultants", who are usually graduate students. Users run to these people to ask them "why didn't my program work?" and "what does this junk mean?" This is the second level of contact, and the user's first with a para-professional representative of the computer center.

The third, and highest contact with the computer center is with the User Services professional. You are sought when a problem is encountered, and the graduate consultant cannot help or is not expected to help. Major errors in software and hardware performance get directed to you. And you are also expected to provide the minutest documentation of every software package in your system. What, then, are the responsibilities of each level of encounter with computer center representatives?

The I/O operator is usually not a representative of User Services, but unfortunately he is usually recognized by users as being a source of information. He should be familiar with the standard introductory job control language cards used at the installation. He should be familiar with their order, and what should be on them in any unsophisticated useage. He is not expected to be a JCL expert, but he should be familiar with it.

Similarly, on simple, elementary mistakes he should know what to do. For example, what does "wrong region specified, should be 140" mean?, and what should the user do to correct it? Such mistakes are quite common, and are easy to correct. Graduate consultants, and certainly User Services personnel, should not be bothered with such trivia.

Thirdly, he should be familiar with the turn-around time of an average job. It is rather unfortunate, but 90% of the users will ask "How long do I have to wait?" It is almost a habit to ask that question while reading in one's deck. He is simply interested in a gross estimate of turnaround, which is normally available.

THE GRADUATE CONSULTANT

The graduate consultant is probably the most frequent contact with User Services. He is deluged with every conceivable problem and question under the sun. According to our RPI Computer Services Newsletter (#27):

> "The consultants are there to assist users with specific programming questions, in understanding error messages, to suggest ways of solving problems and possible means of approaching programs, and to describe the

various hard- and software facilities. The consultants are not there to write your program for you, simulate the computer to check your calculations, perform your debugging or substitute for your instructor. If the consultant on duty cannot answer your questions, he will try to refer you to someone who can . . . we do not provide statistical consultation nor consultation on the contents of application packages . . . ."

Dr. Jack Hollingsworth, in a memo to the Computer Users Advisory Committee at RPI stated that a knowledge of FORTRAN (probably the widest used language at RPI), the use of system I/O facilities, and the construction of files should also be provided, and this would occur at this level.

The problem you encounter with student consultants is where to get people who can do all of this. You are in competition with other departments on campus for their services. What usually happens is that you get two or three people, who combined can perform the above duties, and a referral system is used.

USER SERVICES PROFESSIONALS

You represent the highest rung on the ladder, and are responsible for providing everything necessary for the use of your system. Your department should include:

1. A reference library, containing manuals on all languages and facilities available, JCL, error messages, and all standard software facilities. It should also contain all newsletters, memos, manuals, etc. prepared by you for your facilities. It should be a complete library.
2. Provision of expert know-how in keypunches, terminals (all models available with your facilities), and I/O stations.
3. The bridge between users and systems programmers for major software problems discovered in useage. Systems cannot detect every bug in the system, but users perform an excellent debugging service at no charge to you. These errors should be sent to Systems as soon as you receive them, and when corrected, a memo should be distributed reporting the correction of that error.
4. A regular newsletter, along with memos on major changed, and manuals on supported packages. These should be printed in large enough quantity so that all interested users can get copies. Memos, as well as notices of new or updated manuals should also be provided for user written notices, and faculty notices.

Besides these main areas, there are many others that might be desired. These would not be required, but are suggested for helping users. First of all, short courses in JCL, the operating system at your installation, keypunching, your time-sharing system, etc. can be offered to interested users. These would be aimed at the novice user, and users trained elsewhere, who need to learn what is available at your installation.

A second idea is that of a forum. It may be established to go beyond the use of a gripe box, and might be a regular meeting of all persons involved with the installation. Forums have been proven to be useful in many other areas, and if the interest is there, could help in the running of your installation.

Thirdly, active involvement in outside groups is desireable. These should be both professional organizations (like SIGUCC) and groups sponsored by the individual manufacturers (i.e. SHARE).

As can be seen, there are many areas to be active in, and we wonder if the responsibility may be to broad. A formal plan, in which all participants know their roles, and perform them, makes evaluation of the group easier, and helps to improve performance.

DIVISION OF RESPONSIBILITY

This formal plan covers the entire spectrum of users-computer center interaction. It goes from the most basic level to that of high sophistication. The groups involved are: The I/O operators; faculty and instructors; the student chapter of the ACM; student consultants; and User Services professionals. It requires that all groups be willing to do their part, or else have that portion redistributed to cover for the non-active group.

The I/O operators should be formally responsible for those things they have handled in the past on an informal basis. A simple 1-hour session, plus a bulletin board at the I/O station should give them all of the information they need. They should know the basic JCL for running jobs at your installation, and simple JCL error diagnosis. They should also have a gross idea of turnaround.

Faculty and instructors should be responsible for programming techniques and the languages used, and the correct JCL for these. He should be the student's initial reference for language problems, and also for logic problems. Not only does this remove some of the load from User Services, but it will improve his teaching, due to the feedback he will be getting.

Perhaps the largest untapped source at the university is their student chapter of the ACM. The student chapter can provide courses in programming languages (for example, the RPI-ACM taught OS assembler, beginning and advanced PL/I, ALGOL, FORMAC, FORTRAN, LISP and SNOBOL each semester last year. Anybody is invited to attend these classes, they are free.). They can also provide short courses in keypunching, timesharing at your installation, I/O station useage, and an introduction to facilities at your center. They may provide a small specialized reference library, an idea which is presently under consideration by the RPI-ACM. A newsletter is also common, and is a large source of information about your installation, and topics under discussion in the field. (The RPI-ACM has a mailing list of over 350 people, and 6 large issues were published last year, and two last summer.) They can provide a consulting service, and provide an informal forum for issues. A student representative may be selected to serve on committees effecting computer facilities. They can provide a short lecture series by locals, as well as speakers of national renown. (The RPI-ACM has such a mini-lecture series, as well as having three national ACM Lectureship speakers last year). As can be seen, there are many areas in which the student chapter can be active, and it is a large aid in the running of a university computer center. Not only does this involvement take part of the load off of User Services, it strengthens the relationship between users and the computer center.

The graduate consultants should be responsible for specific programming questions, error message diagnosis, suggestions of methods for solving and debugging programs, and a reference for system hardware and software facilities.

User Services should do everything not covered above. This includes maintenance of the reference library, a regular newsletter, along with technical memos and package manuals. They are the gobetween for users and the computer facilities. They should provide introductory short courses. Lastly, they should maintain active involvement with different professional organizations. They are also the directors for the involvement of the other groups.

CONCLUSION

There is no doubt that the range of User Services is wide and varied. It is not an easy task, but seems to be performed expertly in many places. The greated problem is the lack of user input into the computer center. It is part of the role of User Services to get that input, and pass it along to the right area. Although you may not like adding another task to your job, by redistributing your load as I suggested, you will have more than enough time to handle this new portion. We have a system at RPI that is informally structured very similarly to the one I have suggested, and it appears to work very well. It may be of service to you. Thank you.