GUIDELINES FOR SETTING UP A COMPUTER PROGRAM
TO AID ATHLETIC ACADEMIC ADVISING

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Every department within colleges and universities benefits from the advancement of computer technology. During the last five years, universities in the BIG 10 and BIG 8 conferences have developed outstanding computer programs to aid their entire athletic departments, specifically their academic counseling programs for student athletes. However, a number of smaller institutions, such as DePaul University, are just beginning to use computer systems to address the needs of their athletic academic counseling programs. The investigation and implementation of such programs can be relatively simple and inexpensive. DePaul's athletic academic counseling department put their program into place within three months time and for a cost of approximately $3500. The successful development of a program hinges upon two important criteria: first, a thorough description of the department's needs, including the selection of hardware and software, and second, the identification of a knowledgeable individual who can describe and implement the available computer technology.

An accurate needs assessment is critical in the development of any computer based information system. The ultimate success of the computer program will depend on how well the system fulfills reporting and overall information needs. Therefore, the following areas should be investigated:

1) The type of information the system will handle.
2) The type of system needed.
   (Terminal or PC - Personal Computer);
3) The importance of certain information to the department;
   a) How often will this information be used?
   b) How often does it change?
   c) How often and quickly is it needed?
   d) When will this information be needed? (Mnthly, Qtrly, Yrly)
4) The future uses of the system.

Based on results of these inquiries, reasonable short and long term goals for the system can be formulated.

It should be realized that any computer based system needs time to develop. The key idea at the start of the program is to keep things simple and efficient. In the short-run, patience is critical; no system will immediately be able to solve all problems or address all needs. Setting simple short-term goals will result in the availability of useful informational flows. Most of the beginning functions of the system will center around basic record keeping, list maintenance, and reporting. A number of short term informational goals set by DePaul's athletic academic counseling program included the following reporting functions:

1) Current class registration information by team;
2) Academic transcripts;
3) Lists of student athletes registered in each course by department;
4) Lists of tutors. (Alphabetically and by Subject matter tutored);
5) Team rosters and directories;
6) Tutor payroll.

Long term objectives for the system will include creating and managing information which is used in the decision and policy making process. These informational flows are usually multidimensional, requiring a combination of both current historical, and future projection information. This type of information takes time to build and create and should not be expected in the short run. Creating information for decision and policy making requires a system which can correlate manipulate, and summarize a variety of data. When considering how the information in the database will be created and organized, careful thought must be given to the following:

1) File creation (Types);
2) File interdepencies (Relationships);
3) Redundancy between files;
4) Life (Time) of a file.

The long term goals for the system should exist to aid in the system's development process and to ensure that the system will never stray from its original purpose. Some typical long term expectations for a system might include the following:

1) Term and overall G.P.A.'s by team.

2) Record of student athletes' grades in each course by department;

3) Lists of student athletes by major and college;

4) Listing of classes by quarter or semester in which student athletes most frequently enroll;

5) Listing of classes by quarter or semester from which student athletes most frequently withdraw.

After needs and goals have been appropriately addressed, the selection of hardware and software can begin. The selection of hardware depends on whether the department needs to manipulate or simply view data. The two choices most likely to be available at the department level are the online terminal or the personal computer.

If the viewing of data is the only requirement, then purchasing a terminal is the most appropriate and economical means to accommodate the program's needs. The terminal can be connected to the school's mainframe via modem, allowing the department to view all data which the school maintains on students and other departments within the university. A printer can also be connected to the terminal if printed output is also needed. The implementation of a terminal system has several benefits:

1) The cost of a terminal, printer, modem and phone line is minimal;

    Terminal - $400 - $1500

    Printer - $200 - $1200

    Modem   - $100 - $400

    Phone line (Installation)
        - $ 35 - $100

    Phone line (Monthly cost)
        - ($ Dependent on
          usage)

2) Minimal technical knowledge is needed to implement a terminal, printer and modem;

3) The department has access to all information available to the rest of the university.

However, a terminal provides minimal computing power. If manipulation and storage of data is a major need, the microcomputer or PC is the hardware which should be implemented. The PC has all the qualities of the terminal plus the ability to perform calculations and manipulations on data. It also allows the department to keep its own copies of necessary data. Moreover, the PC allows the department to utilize existing informational resources of the university (through modem hookup to school's mainframe) and to act as its own processing center. Information can be downloaded from the school's mainframe to the department's PC. This feature gives the individual department the ability to use academic and administrative information as it sees fit via programs which are specific to the needs of the department.

Implementation of the PC option does require more technical expertise than the terminal option. The cost of PC implementation is also greater than the plain terminal option. However, the cost of PC's has been declining rapidly, making them only slightly more expensive than a terminal and probably the better value due to their increased capabilities. Some of the advantages of the PC based system include:

1) PC and its peripherals are relatively inexpensive;
    PC   - $500 - $3500

    Printer - $200 - $1200

    Modem - $100 - $400

    Extra storage from $.005 to $.01 per byte

2) All abilities of the terminal option;

3) Ability to download university data to department for custom applications;

4) Ability to create and store department's own databases;

5) Word processing.

Software and the microcomputer go hand in hand; one is virtually useless without the other. Today there is a proliferation of

commercial software for microcomputers. However, much of this software is not perfectly applicable to the needs of the athletic academic advisor. There are many programs which can be a great asset in the advising department, some of these programs include word processing, project management, spreadsheet analysis, and accounting packages. The cost for any one of these programs may range from $50 - $500 per application. Software is often the most expensive part of the whole system.

Even though there is quite a bit of commercially available software, much of the software needs may be custom applications. At the start of the system development, commercial software is satisfactory, but as the system grows it inevitably requires special programming. This can be prohibitively expensive, especially if done through an independent programmer. Independent programmers typically charge anywhere from $35 to $120 per hour. This is a critical reason for having a knowledgeable person working for the department. This person can greatly reduce the costs involved in custom programming.

A full assessment of needs and selection of hardware and software is practically impossible to accomplish without the assistance of an individual capable of handling all aspects of system development. Developing a system includes more than simply programming and data entry. In order to successfully launch a program, the department needs an individual able to determine needs, define requirements and specifications of the program, to communicate with and train users, and to complete the actual implementation. While part time undergraduate students are traditionally employed by university departments, a graduate student in computer science most appropriately and economically fulfills the need of a program. An undergraduate can create simple programs and enter data, aiding in the short term aspects of the program. However, an experienced student with an extensive computer background is able to accomplish both short and long term goals of the program.

Using computers to aid in athletic academic counseling need not be a complicated process. Appropriating limited funds to support a small computer program and an assistant is vital and certainly in the realm of possibilities for today's athletic programs. The ideas described here are currently used at DePaul University to help ensure the academic success of student athletes. Of course, each athletic academic counseling program will have its own particular needs and resources. Hopefully, the program outlined may be used as a springboard for departments contemplating the employment of computer systems for the academic advising of student athletes.