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TERMINAL DATA ENTRY AND RETRIEVAL SYSTEMS

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ABSTRACT

The three units of a data entry and retrieval system are discussed. Such a system enables teams to enter their decisions on disk. The administrator runs the simulation via terminal. Then the teams can pick up their results at their convenience. Such a system makes cards obsolete.

INTRODUCTION

Most educational computer simulations used today are card based. Students or the administrator punch the team decisions on cards and then the simulation is run via batch mode. However, a growing number of administrators are letting student teams use terminals to enter their decisions directly into the computer. Direct data entry has several significant advantages. First, the students gain confidence in using the computer as a tool. Second, fewer errors tend to be made in data entry. Third, the administrator does not have to take the time to assemble the decisions and then go to the computer center in order to run the simulation. Likewise, the administrator does not need to pick up the results and distribute the output to the teams. In fact the administrator does not have to be involved in the decision entry or retrieval process at all.

SYSTEM STRUCTURE

The system is generally structured as three separate units. The first unit Consists of a procedure file which links the team decision file with a data entry program and activates the program. The second unit Contains a procedure file which links the required files with the simulation and runs the simulation. The third unit is a procedure file which outputs the student result file to a line printer.

The data entry program of the first unit is built around a large array with each element in the array representing one decision variable. The operating structure of the program should approximate the following: First the existing data from the team file is read into memory. The team may then obtain a listing of the values In memory or they may begin updating their decision values. If they chose to list the values, the listing will be printed at the terminal under headings which indicate the nature of each value. After the values have been listed, the team may begin updating the decision values. When the update is complete, the team may again list the values in memory in order to verify that the correct data have been entered. If errors are found, they may be corrected and another listing obtained. After the team has finished the update, the program should check for errors that will abort the simulation program. If errors are found, the team should be notified via the appropriate message and asked to correct the decision. After all errors have been corrected the updated decision can be stored on disk.

The second unit allows the administrator to activate a procedure file from a terminal which runs the simulation. The procedure file is responsible for linking all of the simulation files with the simulation program and storing the updated results on disk. By using the terminal to run the simulation, the administrator reduces the preparation and turnaround time involved in running the simulation to one or two minutes. A summary of the administrator's output can be printed at the terminal with the complete output being stored on disk for future reference if needed.

The third unit allows students to pick up their results anytime from immediately after the simulation is run until the time the next decision is run. This Is accomplished by a procedure file which the team activates in order to print their results on a line printer. Multiple copy requests can be handled in the procedure file. This procedure provides the team with more working time between decisions and eliminates the administrative task of separating combined results and passing the results back during class.

SECURITY

Security of the team data files is maintained by providing each team with their own individual password which is required to access their files. Computer system file protection passwords may be used or the data access and retrieval programs may have a password feature built in. The latter case generally provides the advantage that the space where the password is entered can be masked, while masking Is quite difficult when using computer system passwords.

A significant advantage is obtained when an account is configured as a turnkey account if programs with password features are used. A turnkey account also prevents unauthorized use of an account by any authorized user. This is accomplished by dedicating the account to run only one procedure file. When the team logs on, the procedure file is automatically activated, If the run bombs, the account automatically logs off. This feature prevents teams from getting the password file and discovering all of the passwords. There is no way to get Out of the procedure file and stay logged into the account. Thus any chance of access is denied. It also becomes impossible to use the account for any purpose other than for which it is intended.

CONCLUSION

A data entry and retrieval system of this type- significantly reduces the time required of the administrator to utilize the game in the classroom. Large classes can be handled almost as easily as small classes. For a detailed description of one such system see page 291 of the 1979 ABSEL proceedings.