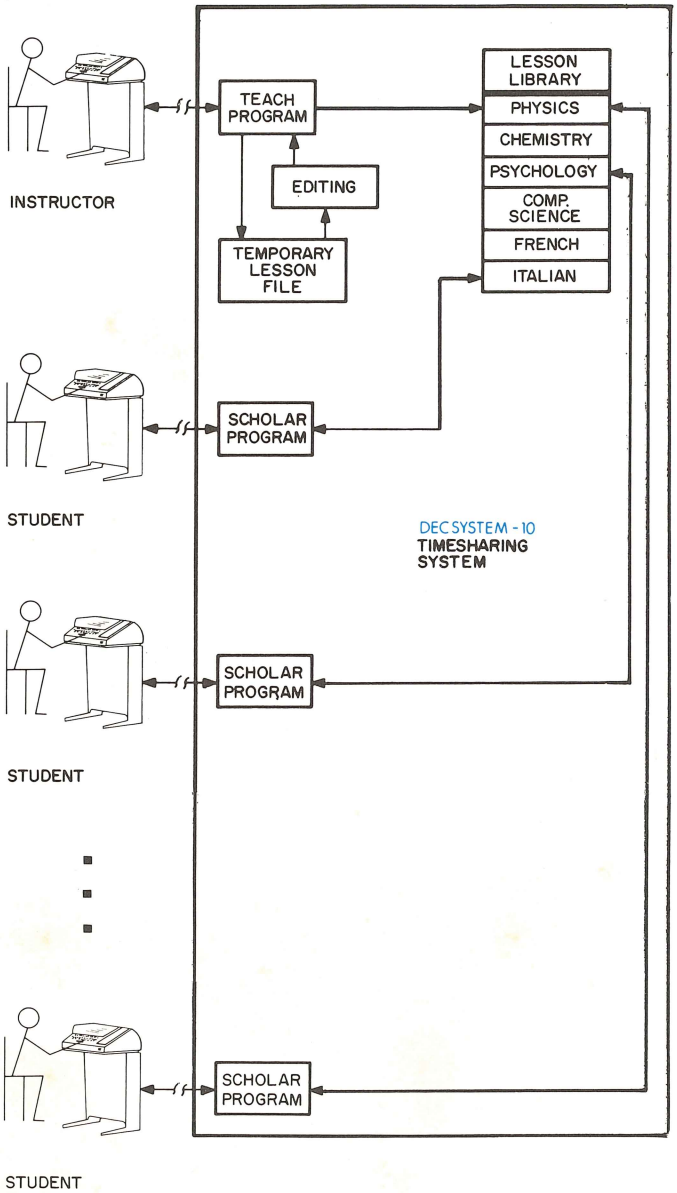
DIGITAL EQUIPMENT CORPORATION

SOFTWARE APPLICATION NOTE

decsystem10

AUGUST 1973

SCHOLAR-TEACH FOR CAI LESSON PREPARATION AND EXECUTION



SCHOLAR-TEACH on the DECsystem-10 allows the instructor to be composing a lesson in physics, for example, while students are working on other subjects covered in the lesson library. One student could be learning Italian while another is taking a psychology lesson. The DECsystem-10 can handle over 60 students and instructors simultaneously.

Computer Assisted Instruction is a pleasure, not a chore, with the dual program Scholar-Teach system for Digital Equipment Corporation's large timesharing system, the DECsystem-10. TEACH enables an instructor to sit at his Teletype terminal and formulate his complete lesson by typing in the text sections and answering questions that the program asks. The SCHOLAR program organizes the material prepared by the TEACH program for presentation to the student. With the DECsystem-10, many students can be taking the same lesson or several different lessons simultaneously from terminals located all over the university campus.

Unlike other CAI programs, SCHOLAR-TEACH is easy to learn and use and does not require specialized programming knowledge. The TEACH program acts as a guide, asking the instructor a series of questions and allowing him to fill in English text, questions for the student, predicted answers, and action to be taken when an answer is right, wrong, or in between. Once an instructor becomes familiar with the program, he can request that the questions to him be abbreviated to speed lesson development.

TEACH is so simple to use that complete lessons can be prepared in a few hours; with systems that use a special computer language rather than English, a one hour lesson can take more than 40 hours of preparation.

TEACH analyzes the information supplied by the instructor and provides a code for each lesson line. This code allows the SCHOLAR program to differentiate between text, questions, responses, comments, and branching information.

Using the TEACH program's built-in editing system, the instructor can quickly and easily change any portion of the lesson from his Teletype. Editing is context oriented; that is, the line or phrase to be modified is located by typing a phrase from the line's context.

TEACH also contains a safeguard against an error called "looping"—a condition in which the program continuously repeats itself instead of moving on to the next block of material.

TEACH also provides individual treatment for each student by allowing the instructor to add remedial sections for the slow learner and advanced sections for the exceptionally bright student. The SCHOLAR program con-

tinuously evaluates the answers, allowing the bright student to skip ahead, if he wishes, and directing the poorer student to a review section.

Like TEACH, the SCHOLAR program requires no programming knowledge on the part of the student. The student merely has to learn the mechanics of connecting his Teletype to the computer system and selecting the desired lesson from the library stored on computer disk or magnetic tape.

In addition to a continuous evaluation, SCHOLAR provides the student with immediate reinforcement for each response—an important factor in learning. When the student answers correctly, the program randomly selects one of several substantiating comments; reinforcements for incorrect answers are also selected at random to provide a natural conversational variety. The instructor can also add comments or hints for the student whose answer is neither correct nor incorrect.

When the student finishes the lesson, the program lists the number of errors made, the number of questions attempted, the total elapsed time, and the computer execution time.

SCHOLAR-TEACH aids the instructor as well as the student. Since the programs themselves do the programming, the instructor can direct his attention to the integrity of his subject matter and the student can concentrate on grasping concepts and developing answers.

QUESTIONS THAT "TEACH" ASKS THE INSTRUCTOR

TYPE IN THE NAME OF THIS LESSON

MUST STUDENT RESPONSE WORDS BE IN ANTICIPATED ORDER?

WILL EXTRA WORDS BE PERMITTED IN STUDENT'S ANSWER?

WILL PUNCTUATION CHARACTERS IN STUDENT'S RESPONSE BE IGNORED?

WILL YOU HAVE SPECIAL REMEDIAL SECTIONS FOR VERY POOR STUDENTS?

HOW MANY QUESTIONS SHOULD BE ATTEMPTED BEFORE REMEDIAL BRANCHING CAN OCCUR?

WILL VERY GOOD STUDENTS SKIP OVER SECTIONS OF THE LESSON?

HOW MANY QUESTIONS SHOULD BE ATTEMPTED BEFORE SKIPS ARE ALLOWED?

TYPE IN THE NEXT INSTRUCTION TO FOLLOW:

IS THE NEXT INSTRUCTION OLD, NEW, REPEAT OR END?

TEXT BLOCK # 1

QUESTION # 1 TEXT BLOCK # 2

DOES THIS QUESTION HAVE A "RIGHT" ANSWER?

FOR THIS QUESTION TYPE IN THE CORRECT RESPONSES WHICH YOU ANTICIPATE, ONE TO A LINE.

TYPE IN THE INCORRECT RESPONSES WHICH YOU ANTICIPATE, ONE TO A LINE.

TYPE IN YOUR COMMENTS, IF ANY, FOR THE RESPONSE:

TYPE IN THE INSTRUCTION TO FOLLOW:

IS THE NEXT INSTRUCTION OLD, NEW, REPEAT OR END?

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