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## The QUICK Instructional System

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The QUICK Instructional System

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1. OVERVIEW

QUICK is a general purpose computer-based instructional system which works in a quasi-interactive mode of operation. This means simply that the student & system interaction intervals are longer than those typically experienced in CAI systems. QUICK issues a unit of instruction called a "task" to the student. The task may include information, directions for using equipment or other materials, and questions to be answered. It is expected that the student will generally take 15 minutes or longer to work through his task, after which he submits responses (answers to the questions) to QUICK. QUICK analyzes the responses, and issues either remedial feedback with a "try again" message, or a new task, depending on the student's overall performance on the task.

QUICK operates in a batch, rather than interactive, mode. That is, when a student submits input (request for a task, responses, etc.) to QUICK, a batch job is entered into the DUAL MACE CDC 6500 job stream. That job issues appropriate feedback to the student and records the "interaction" in a student record file. Thus student-system interaction takes place on a lengthened time-scale via a series of batch jobs. This method of operation is more appropriate on the DUAL MACE system than is a highly interactive mode which requires an interactive job to be in the system during a lengthy student session, since DUAL MACE is geared toward batch computing.

## 2. AUTHORING

Tasks can be entered into the QUICK system via punched cards, or with prompting at a terminal. The author of a task is expected to supply content and questions to be displayed to the student (at one or more levels of difficulty), correct and (optionally) anticipated wrong responses for each question, (optionally) help-items or feedback in the form of examples, hints or statements, or references to texts, (optionally) definitions for terms used in the task, (optionally) a brief description or "overview" of the task, and some parameters of QUICK's presentation strategy (eg., maximum number of tries allowed, number of correct responses required, level of feedback to be given, etc.).

The author may impose some control over the order in which tasks may be taken by students. The basic means for doing this is by supplying a prerequisite list for each task. More complex control, based on student performance, is possible by constructing a decision algorithm for choosing the student's next task and/or level.

## 3. STUDENT USE OF QUICK

Two methods are currently used by students for communication with the QUICK system. First, a PIRATE macro is available for use at terminals which prompts the student for input, assembles the input into a file, submits the batch job into the DUAL MACE input stream, and displays the job output at the terminal. The turnaround time (ie, the time from the last student entry until the output is displayed) at the terminals has

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generally been 1-2 minutes, but this varies with the total load on the DUAL MACE system. After receiving his output, the student leaves the terminal to work on his task, and returns later for another interaction. Second, special marked-sense cards have been produced for use with QUICK, on which students pencil-mark their responses and other input. These cards, preceded by special control cards provided to the student, are read into a marked sense card reader. Output from these jobs is on the line printer, and is filed by computing center personnel just as any other printer output, with a typical turnaround of 15-20 minutes.

As well as requesting a task and/or submitting responses, students may make a number of other special requests such as for definitions of terms, an overview of all tasks available, and help for questions they cannot answer.

#### 4. DOCUMENTATION

Several documents are available describing the QUICK system and its use in detail:

1. An Author's Guide to the QUICK Instructional System.

Gives step by step information on constructing and entering QUICK tasks, including use of sub-routines to generate questions, and use of the Logic Package for constructing a decision algorithm.

2. Edit Guide for QUICK Authors.

Describes editing tasks in 2 ways: (1) by replacing an entire task and (2) by using directives to change portions of tasks.

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3. Instructor's Guide to the QUICK System.

Describes the role of the instructor whose students are using QUICK, for both the general version and the locally optimized version of QUICK.

4. Student's Guide to QUICK.

Explains "What QUICK is" and "How do I use it" to the student, including use of marked sense cards and use of QUICK via a terminal.

5. An Installation Guide for the QUICK System.

Enumerates machine dependent portions of code in the (FORTRAN IV) main QUICK programs, and illustrates file structure; intended to aid in installing QUICK on other machines.

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