ABSTRACT

In Music 309, Basic Guitar, students study fundamental music concepts and develop guitar playing skills. That portion of course content which is cognitive (as opposed to psycho-motor) especially lends itself to reinforcement via the computer.

This project presents seven reviews of material covered in the first half of the course: music symbols, music and guitar terms, note values, note names, guitar chords, and note fingerings. A quiz sampling all reviews is also available.

By completing these drill and practice routines, students prepare for the first written exam in the course. The reviews are designed to be easy to use and entertaining. Records of student’s scores are automatically maintained.
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INTRODUCTION

Basic Guitar is an elective course for non-music majors. Students view and listen to a series of film strip/cassette tutorials, prepared by the text publishers, which provide illustrations of guitar performance techniques and exercises and short pieces to study and perform. While learning to play chords and melody lines, students develop a degree of familiarity with fundamental musical concepts—pitch, rhythm, meter, harmony—and musical notation.

The students who enroll in this course are primarily interested in playing the guitar. Accordingly, a high proportion of class time is devoted to playing, as opposed to lecture, and students develop their knowledge of music mostly in that way. For example, guitar chords are commonly abstracted as a drawing of guitar strings with dots to represent where fingers are pressed. Once students know how to interpret a diagram, they learn chords (finger patterns) by practicing.

Still, some of the course content, guitar chord diagrams included, can be approached through traditional methods, and knowledge of this material can be tested for in written examinations. Included are such areas as symbol identification, definitions of music and guitar terms, pitch names and time values of notes, and finger placement for chords and single notes.

The intent of this project is to enhance and reinforce students' grasp of the seven areas just mentioned, and to do that in an interesting
and enjoyable way. Computer assisted instruction is yet relatively unknown at CCSU, so the project capitalizes on the novelty (for most students) of working at a computer. Since the course already incorporates audio/visual tutorials, a set of drill and practice exercises provides students with a contrasting study method. Two reviews present matching columns of terms and definitions. In another matching exercise, musical symbols appear one at a time above a list of identifying names. To review guitar chord diagrams, students supply the name of the chord after the diagram is displayed. In two exercises a staff and notes are displayed; students identify the letter name of notes in one exercise, and give the string and fingering for notes in another. A "rhythmic" exercise asks students to add the time values of four notes and enter the sum. A quiz routine samples all seven reviews, allowing students to practice taking an abbreviated examination. Taken as a whole, the exercises review the appropriate material from chapters 1 through 11 of the text, on which an examination is given at mid-term.

All exercises share some common features: the correct answer is supplied after two or three attempts to answer; there is a random order of presentation each time a review is taken; records of students' scores are maintained. There is an optional introduction to each exercise, explaining how the review is organized. On the average, ten to twelve minutes is required to complete a review.

Given the nature of the reviews as drill-and-practice routines, pains were taken to provide a modicum of variety in visual design, phrasing of instructions, and the like. Most reviews incorporate sound and
musical effects. A flexible design allows students to repeat a review as often as wanted, to select another review or stop (with a record made of the score) at the end of any review.
LOGICAL DESIGN

BASIC GUITAR REVIEW consists of these component programs:

1. Hello (Menu)
2. Music Symbols
3. Music Terms
4. Guitar Chords
5. Guitar Terms
6. Note Names
7. Rhythmic
8. String and Fret
9. Quiz
10. Log Routines

The menu program accesses the seven reviews and quiz. Individual review programs consist of subroutine calls for initialization, for music (in some programs), and for an introduction to the review (optional) and name and date entry; a main routine then presents a review element or exercise, calls a subroutine for answer processing, and another subroutine to exit from the review when the number of elements has been exhausted. At the conclusion of a review a record entry consisting of the student's name, date of use, program name and score is made in an external file. Printing or screen display of this file is provided by the Log Routines program, as is a routine to initialize the user file (which also deletes any previous file). Appended to each program are routines which direct the use of the review when a quiz is being run, and subroutines which access a
machine language program processing musical sound and graphics.

The review introduction displays information about the content and scoring of answers for that particular review. A record of the user's name, score, date and review name is made on completion of the review.

Procedures to display a review element, or exercise in the case of Rhythmatic, vary somewhat from program to program, as is to be expected. In general, these procedures involve a pre-selected number of items (Rhythmatic being an exception), a random number routine to vary presentation order of review items, and text and graphics appropriate to the review subject.

Answer processing subroutines also vary somewhat in content from program to program. Text instructions invite a user entry, with responding messages appearing as appropriate. Sound effects reinforce correct or incorrect answers. After a pre-set number of attempts to enter the correct answer, the answer is provided.

An exit routine displays the score achieved and allows the user to repeat the review, return to the menu, or stop.

The quiz program offers two test versions: one consisting of two items from each review and another of five items per review. Quiz routines modify item presentation and response processing in a fashion appropriate to a streamlined "test mode." For example, only one attempt to respond correctly to each item is allowed, and correct answers are not displayed. Quiz routines automatically load the next
review in line; at the conclusion of the quiz a user record entry is made.