

## Project Year

2006

## Project Team

Stephen Stone, Faculty, Peabody Institute; Mark Lackey, Student, Peabody Institute

## Project Title

Enhanced Online Music Theory Drills

## Audience

Students enrolled in *Fundamentals of Music* or *Music Theory* classes

## Pedagogical Issue

One of the most frustrating aspects of teaching first year music theory is the difficulty students have in identifying basic musical relationships. Students often take a long time to determine the interval between two pitches or to identify the bottom note of a chord. This slowness hinders the student's ability to understand the deeper, more important ideas of how that interval or chord functions in the music.

## Solution

In 2005 Dr. Stephen Stone and Mark Lackey worked with the CER to develop a set of drills in the WebCT quiz environment. The drills consist of text-based questions with a graphic component (i.e., "What is the name of this note?" with an associated picture). Dr. Stone required the drills in his class, as 10% of the grade, during the 2005-06 academic year. The results were excellent. As he had hoped, almost everyone tried to score 100%. Stronger students finished the assignment after one or two attempts. Weaker students re-took the drills multiple times, thereby getting more practice. The final grades last semester were the highest he had ever experienced.

In 2006, with the help of additional team member Steve Swedish's advanced scripting skills, this team will create a complementary set of drills with colorful, interactive Flash animations that allow students to demonstrate their written answers to questions in the form of musical notation. In this way, the instructor can better solidify the concepts in the students' minds. By using both text and musical notation, we are reaching students and reinforcing the concepts through multiple approaches.

## Technologies Used

Courseware (WebCT development), Macromedia Flash, HTML/Web Design

## Project Abstract

This project will expand the capabilities of a web-based, randomly generated music theory fundamentals drill that we developed last year in the quizzing application within WebCT. We now have a working program that contains both graphics and text-based questions. We would like to add a feature where students will answer questions not only with text but also by entering musical notation. Pedagogically, it is desirable to practice the same competencies in various ways. Assorted drills

addressing the same fundamental ideas will require students to spend more time developing these abilities. Interactive drills have the potential to both be more engaging, by employing a wider variety of presentation styles and learning modes, and, at the same time, to be more rigorous, by requiring students not only to identify but also to produce correct answers. The Macromedia (now Adobe) Studio web development tools, especially Flash Professional, offer an established platform for creating interactive web experiences with moving graphics and scripted responses to user actions. Incorporation of Flash files into the WebCT environment should be feasible. As an alternative, the files can be delivered from any webpage. An interactive design will build various configurations from a few components, so that these additional drills will not require the creation of an inventory of graphics files such as we created for the existing drills, and more time can be devoted to the user experience. Assessment may be accomplished through the existing capacities of WebCT or, possibly, through the Flash applications themselves, in addition to conventional skills testing in the course. We expect that these new interactive drills will further improve students' overall performance and final grades in introductory music theory courses.