Project Year
2007

Project Team
Stephen Stone, Faculty, Music Theory, Peabody Institute; Patrick Donnelly, Student, Computer Music, The Peabody Institute

Project Title
Music Theory Workbook - Phase II

Audience
This tool may be used by the beginning Music Theory courses at both Peabody and the Homewood Campus. With the new and more advanced features of Phase II, the program would be of great use to Peabody's Theory III courses as well as graduate theory seminars.

Pedagogical Issue
In the first phase of the Music Theory Workbook (2006-2007), we created the *"Gradus ad Parnassum"* Java webstart program. This interactive application provides beginning level music theory students a facile means to repeatedly practice contrapuntal Part Writing Exercises from any web browser. This program features a graphic musical notation interface, audio playback, file I/O, and an intelligent system for evaluating and correcting the rules of counterpoint. The first phase of our project was concerned with assisting students to learn and practice the art of Species (Renaissance) Counterpoint. However, we wish to advance the functionality and integrate the program into daily classroom use.

Solution
The second phase will include important new features such as expanded and improved support for musical notation, input from a MIDI keyboard, and new rules for free (Baroque) counterpoint and for musical analysis. These advancements will also make the program generally relevant to many other music theory courses at Peabody and Homewood beyond the introductory theory course.

Technologies Used
Digital Audio, JAVA, MySQL, PHP

Project Abstract
In the first phase of the Music Theory Workbook (2006-2007), we created the *"Gradus ad Parnassum"* Java webstart program. This interactive application provides beginning level music theory students a facile means to repeatedly practice contrapuntal Part Writing Exercises from any web browser. This program features a graphic musical notation interface, audio playback, file I/O, and an intelligent system for evaluating and correcting the rules of counterpoint. The first phase of our project was concerned with assisting students to learn and practice the art of Species (Renaissance) Counterpoint. In this second phase, we wish to advance the functionality and integrate the program into daily classroom use. The second phase includes important new features such as expanded and improved support for musical

notation, input from a MIDI keyboard, and new rules for free (Baroque) counterpoint and for musical analysis. These advancements will also make the program generally relevant to many other music theory courses at Peabody and Homewood beyond the introductory theory course. The second phase will allow electronic file submission of student assignments and exams electronically to the professor. A special professor's version will store all student submissions in a database, give a suggested evaluation of each student submission to help streamline the grading process, track and store the grades, and graph the progress of each student. Subsequently the professor can return the graded assignments back to the student with corrections and commentary. The program would also provide statistical analysis of data to help the professor identify areas and topics that are of difficulty to students. In addition, new improvements to the modular musical notation interface (Ariadne) will allow it to be reused in any and all future CER projects requiring web-based display of musical scores.

You may view screen shots of this year's project at:
http://pcm.peabody.jhu.edu/~pdonnelly/gradus/index.php