BACKGROUND

This project is focused on development, implementation, and assessment of ascolta_cantare, a custom built music education software for use in undergraduate musicianship classes.

Frequent use of ascolta_cantare can speed up the development of interval recognition so that instructors can more quickly introduce more advanced concepts and sounds.

What is musicianship?
- Skills-based class for undergraduate music majors that focuses on developing the "ear that sees" and the "eye that hears."
- Requires knowledge of musical fundamentals (i.e. the ability to read music and recognize intervals and chords.)
- Taught concurrently with music theory which provides basic knowledge that develops musical analysis.

Why interval singing?
- "Singing intervals is still one of the best ways to learn recognition of them." (Rogers, p. 37)
- "Intervals are building blocks for many different eras of music" (Rogers, p. 105)
- "The danger of dwelling on intervals (or any fragments) for too long is that they steal valuable time from other listening experiences." (Rogers, p. 105)

Why software?
- Software is not meant to replace the teacher, but to help.
- Timbres are limited to piano, voice, and possibly synthesizer, but with software anything is possible.
- The MAX/MSP programming environment is extremely easy to use and allows for the creation of robust, powerful, simple to use software.
- Ear-training software that is currently on the market all focuses on individual practice. This was developed to facilitate group exercises.
- Musicianship skills are key to success in the highly competitive field of music, so this is a.software-building techniques from competitive athletics. Ascolta_cantare is similar to a musical pitching machine.
- Software can be both aural and visual, so the ability to read or recognize solfeggio, musical notation, interval notation, or scale degrees will help accelerate development of those skills as well.

What is my background?
- Specialty of experimental music, not especially helpful in teaching musicianship
- Worked in video game industry as game designer.
- Ran music production company for 10 years that was involved in music transcription, technology, and music programming.
- Conservatory training.

PROJECT DESCRIPTION

ascolta_cantare – homegrown music education software

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Faculty Mentor: Dr. Pamela Palmer Jones

ascolta_cantare is a stand-alone music education software program developed in the MAX/MSP software environment. It is currently programmed to facilitate simple group exercises for in class use that develop interval recognition and interval singing. Mastery of these skills is essential for progression into more advanced musicianship classes and advancement into the professional field of music.

'A well rounded ear-training program includes at least two discernable phases- one preliminary and the other more terminal..." (Rogers, p. 148)

Ascolta_cantare is for the preliminary phase of skill development. Using it can help accelerate development of these critical basic skills because it is designed to address two main problems that can potentially hinder this development. One is the potential problem of the experience of the instructor. In some instances, the instructor of a musicianship class can be teaching for the first time and using a programmed, simple software exercise can help augment the experience of the instructor. More experienced instructors will also find this beneficial, since they are free to engage in different ways with students while the exercise is running. The other potential hindrance is the limited range of timbres available in the classroom.

"Vocal and instrumental timbres, as well as the piano, will reveal striking illusions of change in interval hearing because of the difference in the overtone patterns." (Rogers, p. 106)

Using digital sampling techniques, ascolta_cantare can bring any instrument into the classroom.

ASSESSMENT & SUSTAINABILITY

Assessment for this software was done by collecting data from two musicianship II classes taught by graduate teaching assistant Aaron Kirschner in Spring of 2013.

One class used the software for 5 minutes every other class period. The other class did not.

Each class was given a survey before introduction of the software and after. The survey asked basic questions about the students’ backgrounds in musicianship and their feelings and attitudes related to their musicianship abilities as well as their feelings and attitudes about the software. Students could also write in responses to the survey questions.

This software can be easily implemented and used by any instructor. Additionally it can be easily modified and adapted for other exercises or uses. Over time, a suite of products can be built by the teaching assistants, since PhD composition students are required to take two semesters of electronic music programming.

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Sources:

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