Thinking by Ear

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Abstract

Thinking by Ear is a unique blend of music and computer science, as well as an innovation in music pedagogy. It encourages users to interact with music through its notation, and provides an engaging means of doing so. It has been in development since the all of 2014 and is set to enter the classroom at Peabody this fall.

What we offer is a set of intuitively designed software tools for tracking 1) surface aspects of music such as: key, motive, phrasing, linear design, counterpoint, and local harmony 2) middle ground aspects of: hypermeter, middle ground motive, and scale degree maps (maps of middle ground lines), and 3) background aspects of: fundamental line, high-level design function of passages, and sectional labels (exposition, development, AABA, etc.). The wide variety of tools available allow it to be used in both private music studios, and high school, undergraduate, and graduate theory classes. Each of these aspects (and their tools) will be demonstrated to the audience as they appear in Beethoven's "Ode to Joy" and Petzold's Minuet in G.

One important goal of the program is to make the nature of analysis more dynamic. For example, rather than simply labeling Roman numerals beneath the score, the program allows the user to play the piece while the chords from their analysis accompany it. The same is true for figured bass.

Learning about the piece is guided by sets of lightbulbs. These contain information and instructions for students to follow as they discover how the music works. Each piece comes with our set of lightbulbs, but teachers can create their own sets for their students if they wish.