

ISE 599 Paper Review

Title: The Radio Baton and Conductor Program, or: Pitch, the Most Important and Least Expressive Part of Music

Author: Max V. Mathews

Reviewer: Jie Liu

No wonder why Max Mathews is considered as “the father of computer music”, because from this paper, I realized many facts and ideas I know actually might be from him. This paper could be considered as two parts. The first part discussed the Radio Baton and the Conductor Program, which is more from the technical side, for example, the design, the structure and the working procedure. The second part is like a discussion part, which is more focused on the influence and questions brought by the Radio Baton and Conductor Program.

In the first part, the author introduced the Radio Baton, which is a new sensor with which a performer can play electronic instruments. It consists of low-frequency radio transmitters in the ends of one or more batons and an array of receiving antennae. The receivers are arranged to get the position of the batons in a 3-dimensional space. Z axis is useful only when accurate measurements of x and y are not available, for example, the baton is far from antennae. The Conductor Program then collects the triggers generated from the radio baton, and send MIDI signals to a synthesizer. A type of sequencer in which the sequence of pitches and durations of the piece are to be played is stored in the computer memory. For accurate measuring of the time between successive triggers, some control algorithms are also presented in the paper.

In the second part, the author mentioned that most pieces of music could be divided into two parts: a predetermined part (pitches) and a part over which the performer can exercise his own choice, for example, music expressions. That is why the author claimed that pitch is the most important, but the least expressive part of music.

The author also starts to discuss the performance itself, and the relationship between performance and performers. I think the reason why the author was interested in this discussion is because the Radio Baton and Conductor Program bring something new to music performance, and also possibly changed some traditional opinions of performances. For example, with the pre-stored MIDI file in the computer, we don't have to worry about wrong notes from the performer, and the main effort to perform a piece is to create expressions. So, some questions are brought by the author: what will happen with instruments which never make pitch mistakes? Will the performer become less interested in pitch because he does not need to have to struggle to achieve it? Can the new instruments make music too easy to play and hence uninteresting?

I think these questions are quite interesting. My opinion is that we don't have to worry about this kind of flawless performance, because it won't take the place of human's performance. People tend to like live performance played by human more than this flawless performance made by computer. I had some interesting discussions with some

people when I demonstrated ESP before. Once I was asked by an audience why I make the performance from ESP without any wrong note, and I just explained that we embedded the MIDI file into the computer. Also, once I was suggested to develop one more feature of ESP that could allow the user to change the pitch, because this audience believed that the performance with changed pitches (could be considered as wrong notes) is more fun. Well, I don't know whether the preferences from these two people can represent most people, but personally, in terms of performance itself, I prefer human's performances.