Interactive Musical Composition System based on Autonomous Maintenance of Musical Consistency

T. Kitahara*, S. Fukayama**, S. Sagayama**, H. Katayose***, and N. Nagata***
(*Nihon Univ., **Univ of Tokyo, ***Kwansei Gakuin Univ., Japan)

E-mail: kitahara@chs.nihon-u.ac.jp, Web: http://www.kthrlab.jp/

Introduction

Problem: Even if the composed piece is partly different from the user's desire, it is difficult for the user to edit the composed piece.

Way 1: Try again with a different parameter setting
- A completely different piece may be generated.

Way 2: Edit it themselves with separate software (e.g. a music sequencer)
- Knowledge of musical theory is required.

New Approach: Human-in-the-loop

To incrementally modify music through interaction of the user and the system

Technical Issue

When music data are edited by the user,
- To determine whether the editing causes musical inconsistency
- (If so,) To infer which part of the music data should be changed and how in order to solve the inconsistency

Solution: Use of Bayeian Network

Demonstration: OrpheusBB

The melody that matches the prosody of user-input lyrics is generated.

When the user edited the melody or chord progression, the non-edited part is automatically accordingly changed.