



A.I. In Music Composition

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Proceedings of the 15th Annual NACCQ, Hamilton New Zealand July, 2002 www.naccq.ac.nz

ABSTRACT

This poster and demonstration introduce the first stage of a large project applying artificial intelligence techniques to the automated composition of Indian classical music and western classical music. A musical notation and sequencing program will form the backbone of this project. This program will cater for the rich harmonies of western classical music as well as the subtle 'gamakas' (nuances) of Indian classical music. The styles of the great classical composers will then be used to generate the input to this program. The world's first software capable of generating the subtle 'gamakas' of Indian classical music will be demonstrated.

Keywords: AI, automated music composition, gamakas, classical music

1. INTRODUCTION

There are many automated music composition programs. There are also many music sequencing and notation programs. None of these is capable of generating the subtle nuances of Indian classical music, let alone automatically composing Indian classical and fusion music. This project, in its final form aims to not only produce high quality Indian and western classical music, but also to automatically compose these genres of music, in the styles of the great composers of these two genres. Results thus far have been very encouraging.

2. WESTERN CLASSICAL MUSIC AND INDIAN CLASSICAL MUSIC

Western classical music and automating composition of music in that style presents relatively fewer problems as this genre of music uses the even-tempered scale, the music has been studied,

analysed and documented extremely well. The whole MIDI system is built around western music. Most western instrument voices are available in MIDI. The dynamics and the nuances such as vibratos and tremolos are all catered for in the hundreds of sequencing software.

On the contrary, Indian classical music presents many problems. The nuances, called 'gamakas' are the essence of Indian classical music. Many people are trying to approximate Indian classical music by playing on pianos and keyboards and destroying the very essence of it. Although software like Finale and Cakewalk Sonar can be tweaked to play tolerable Indian music one needs to spend a very long time manually adjusting the various parameters for each note and in between.

3. THIS PROJECT

This project aims to achieve several things. First, to demonstrate that the 'gamakas' can be generated using computers. Second, to produce a software that is capable of reading Indian music notation and producing the 'gamakas' of Indian classical music. Third, to develop the software in a way that it can also read western music similar to currently available software. Fourth, to cater for Indian Raagas and Taalas. Fifth, to add harmony to Indian music where appropriate. Finally, to incorporate the rules needed to generate music in either genre as well as fusion music. So far, the generation of several 'gamakas' has been demonstrated using standard MIDI equipment. Simple software has been developed to read Indian music notation and play it on standard MIDI devices.

4. CONCLUSION

The goals are attainable, but the task is very big. The author seeks the collaboration of people interested in music, musicology, A.I., MIDI, sound synthesis, sequencing and notation software, and related topics.

