

USER-DIRECTED IMPROVISATION AND PLAY WITH META-COMPOSITIONS FOR MIMI4X

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ABSTRACT

We propose a demonstration of Mimi4x, an interactive audio-visual installation that allows users to participate in the performance of “meta-compositions” by directing and listening to live streams of machine-improvised music. Mimi4x was unveiled at the 2010 IEEE International Conference on Multimedia and Expo with one meta-composition entitled “Airport.” The present demonstration will feature several meta-compositions that showcase the range of possible style contexts, encouraging a variety of user interactions.

1. INTRODUCTION

Traditional models for musical communication generally feature separate, clearly defined roles for the composer, performer and listener [1]. The composer's intent is transmitted to the performer, who then communicates it to the listener. In practice, of course, the interpretation of this transmission is highly dependent on context and shared knowledge. In a musically eclectic culture, listeners, performers and composers may not share the same musical context, and this can be a significant barrier to communication.

In this situation, technology can act as a bridge or meeting point between the composer and the listener, enabling the listener to participate in the compositional process her or himself. Mimi4x models this musical creation process by giving the user the ability to manipulate on the fly several streams of improvised music based on source material created by a composer. By interacting with technology in a way that directly affects the musical content, listeners will be able to engage with the music more deeply and actively than through listening alone.

2. MIMI4X

Designed with the listener's participation in mind, Mimi4x is built upon the Mimi 1.5 (Multimodal Interaction for Musical Improvisation) system, created by François and originally designed for human-machine music improvisation on a MIDI keyboard [2]. Given a vocabulary of musical source material, Mimi makes use of a factor oracle data structure that continuously recombines that raw material

into new improvisations. Mimi also incorporates visuals that give the user information about the past, current and future states of the improvisation engine. Mimi made its concert debut in June 2010 at the People Inside Electronics concert in Pasadena, California.

Mimi4x provides a reduced set of custom controls that make performing with Mimi accessible to users regardless of musical skill level or experience with the system [3]. A composer prepares in advance original music for four Mimi panels. In effect, these are meta-compositions, determining the raw source material from which each panel will create its improvised music stream. Each panel is an autonomous improvisation system, which the user can activate and direct simultaneously with on-screen controls or a MIDI interface. The user can start and stop each improvised music stream, change its volume (including fade in and out), and manipulate the amount of recombination each improvisation engine introduces in its meta-composition material. As the user becomes acquainted with the interface, they enter into a process of compositional dialogue with the system. The machine manages the low level note-to-note details, while the user focuses on the high-level decisions of creating a musical narrative from the four improvisation streams.

This approach allows each meta-composition to be stylistically unique, and our demonstration will explore a variety of meta-compositions encompassing a range of possible style contexts. As technological artifacts like Mimi4x become increasingly involved in the process of musical creation, this raises interesting questions about where musical intent originates: from the technology's creators, those who make use of the technology, or the technology itself.

Further information on the Mimi project can be found at mucoaco.blogspot.com/p/mimi.html.

3. ACKNOWLEDGEMENTS

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4. REFERENCES

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