MOVING BITS

by

FANG WAN

A TERMINAL PROJECT

Presented to the School of Music and Dance of the University of Oregon
in partial fulfillment of the requirements
for the degree of
Master of Music in Intermedia Music Technology

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"Moving Bits," a project prepared by Fang Wan in partial fulfillment of the requirements for the Master of Music degree in the School of Music and Dance. This terminal project has been approved and accepted by:

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Jeffrey Stolet, Chair of the Examining Committee

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Date

Committee in Charge:　　　　Jeffrey Stolet, Chair
　　　　　　　　　　　　　　Chet Udell
　　　　　　　　　　　　　　David Crumb

Accepted by:

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Director of Graduate Studies, School of Music and Dance

ACKNOWLEDGMENTS

I wish to express sincere appreciation to Professors Stolet and Udell for their assistance in the preparation of this manuscript. In addition, special thanks are due to Professor Stolet, whose familiarity with the needs and ideas of the Future Music Oregon community was helpful during the whole duration of this undertaking. I also thank the members of the FMO community for their valuable input.

Moving Bits

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1. PDF file titled "Fang_Wan_Terminal_Project_Contents"
2. MP4 file titled "*Moving Bits.mp4*" – performance of the piece
3. AIF file titled "*Moving Bits.aif*" – audio recording of the piece
4. Files that go with "Beginning52.ktl" in folders are titled:
   - "5/3" – contains 1 audio file
   - "audio" – contains 11 audio file
   - "desktop" – contains 3 audio file
   - "From Kyma Folder" – contains 9 audio file
   - "gu qin_tone" – contains 1 audio file
   - "one_shot_phrases&samples" – contains 1 audio file
   - "ShortSamples" – contains 1 audio file
   - "spectralanalsys" – contains 3 Kyma spectrum files
   - "spectrumanalysis" – contains 7 Kyma spectrum files
   - "voice" – contains 1 audio file
   - Sound Check.kym – for sound check
5. KTL file titled "Beginning52.ktl" – Kyma Timeline file to perform piece
6. Max application file titled "Moving Bits Max"

Abstract:

Moving Bits is an interactive composition for Gametrak and Symbolic Sound's Kyma. The Gametrak, a three-dimensional position-tracking system, functions as the interface for my data-driven instrument and it controls a variety of musical parameters such as timbre, pitch, timeindex, and density of events. The data created in the Gametrak is first sent to Max/MSP and then to the sound-producing algorithm residing in Kyma. Kyma responds to the data by producing the synthesized sound. Sound sources of this piece include several audio files that possess short, clean and harsh attacks. These sounds are based on recordings of Chinese instruments such as the Erhu, Guqin and Yunluo. The motives of this piece derive from various rhythm patterns. By controlling the change in the parameters, I control the musical drama as it unfolds.