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Max/MSP Software Design for Music, Math and Computer Science Outreach

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Abstract

Cycling 74's Max/MSP, a powerful graphical programming environment for real-time interactive computer music composition/performance, may also be used by educators to design instructional applications for music. Inspired by some of the interdisciplinary approaches that have emerged from the *Mathematics Across the Curriculum* movement, a project launched at Dartmouth College in the late 1990's that included an exploration of the interconnectedness of fields like art, computer science, mathematics, and music, among other disciplines, the author has created a number of software applications that allow students to interactively explore the intersection between music and mathematics using computers. This paper will demonstrate some of the applications, and then discuss design issues and implementation strategies associated with their use at a recent Duke Talent Identification (TIP) weekend outreach opportunity for middle and high school students. A website for this presentation is available online at:

in.music.sc.edu/fs/bain/atmi13/

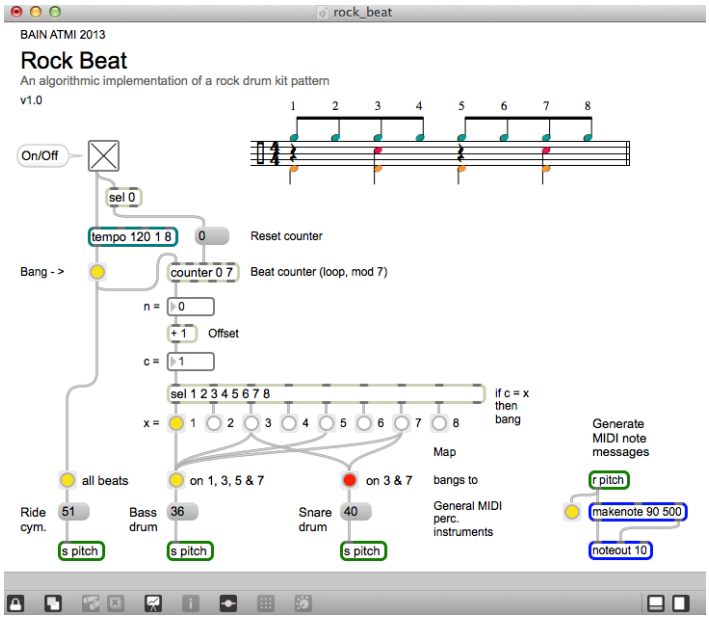

Fig. 1. Max programing example from *Music, Math and Computers* Duke TIP course

Links

Center for Mathematics and Quantitative Education at Dartmouth – http://www.math.dartmouth.edu/~mqed/
Duke Talent Identification Program (TIP) – http://tip.duke.edu
Mathematics Across the Curriculum (MATC) at Dartmouth College – http://www.math.dartmouth.edu/~matc/
Troillard's OSCulator – http://www.osculator.net
University of South Carolina – http://www.sc.edu

- Honors College (SCHC) – http://schc.sc.edu
- Duke TIP Scholar Weekend at the University of South Carolina – http://saeu.sc.edu/adventures/duketip/scholarWeekend.html
- School of Music – http://www.music.sc.edu
- Carolina Science Outreach – http://www.carolinascienceoutreach.org/

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