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Student2(7)

1. Proposal

Team Members: Mindy Johnson, Student 1, Student 2

Writing music is like writing programming. Classically speaking, there are principles guiding the creation of a piece of music, just as there are principles guiding the creation of a program. For example, the program shell can be likened to a musical score, both having various structural elements to which one must adhere. There is also a musical “language” of quarter notes, treble clefs, time signatures, and rests that can easily be compared to the “language” of programming.

Our project will focus on blending the art of programming with the art of creating music. Children will be able to link meaningful musical symbols to multisensory outputs already utilized in PicoBlocks?. In essence, children will use quarter notes, tones, octaves, chords, time signatures, lights, and motors to create their own musical/multisensory composition. Our thought is that children who have not, in the past, been able to write a piece of music or hear a piece of music (children with hearing impairments, for example) would be able to enjoy a musical experience in an entirely new way using colored lights and vibrations. We will combine Logo programming with a musical lesson by creating a musical template containing items such as quarters notes which students will be able to expand upon and create musical compositions. Musical concepts such as themes, choruses, codas, etc. can all be explored programmatically through various kinds of looping.

2. Design URL

http://www.funderstanding.com/k12/coaster/

This site is a simulator that allows kids to design their own roller coaster. It is used as a way to apply various physics concepts. Children can control things such as velocity, friction, gravity, etc. as well as the size of hills the coaster runs on. After constructing their coaster, children can run it to see what would happen. If all of the physics principles were taken into accoutn the coaster will run successfully, otherwise it will get stuck or even fall off.

[Student 1: Fun tool and way to learn about physics and coasters. I enjoyed tinkering around the OOPS mishaps that resulted from my poor coaster / hill / loop designs).] [Alana Chan: This was really fun! Although there were so many variables that I could change all at once that I could play with it a long time and get all kinds of OOPSes without necessarily learning which change I made did the trick.]