

Competitive Analysis

My project is very different from most since it contains two main parts. It takes input, music data and it randomly calculates a longer work based on the input. When doing my competitive analysis, I was unable to find anything that was able to successfully combine all three. However, I found many different products that can do most of at least one of the above very effectively:

- There are many products able to take in MIDI input from a UI. The most common way of doing this is through a MIDI controller (the M-Audio Oxygen 25 MIDI Keyboard is a great example of one available through Clusters Multimedia Lending). The user presses on a key, which relates to a given amount of data sent from the MIDI controller to usually a USB hub, where a program like PropellerHead's Reason manipulates that data and stores it in a given location in the program. There are many more examples of this, as this is how electronic artists are able to create their work (if using musical input). While my proposed design of this makes sense in the project's context, my project would not be best suited for MIDI input applications as well as these other products.
- I have not found a single product able to randomly calculate a new, musical work based on a section of musical input. I have found many functions that are able to randomly generate large musical works on a whim (ex. <http://www.anticulture.net/>, <http://www.fakemusicgenerator.com/>). These algorithms are able to run the random calculations that are necessary to create a full length work, however I do not know exactly what they depend on. This is where I believe that my algorithm will be better than any other program done before, because it is able to take input and do its calculations based on that input.
 - I have found one program that creates "random" songs based on user input, called Otomata (<http://www.earslap.com/projects/otomata>). The reason why I do not consider this as close to my design is that the final outcome is solely dependent on the input. Therefore, given the same input, the two results should be exactly the same. In the other programs mentioned and especially in my own, the results in this case should be different because the calculations are random

There are able programs out there that all have features I wish to incorporate into my project. However, my project will be special in the fact that it combines all of them together and still includes other functions never been done before. The purpose of this project is not to design the best components individually, as I already know there is better things out there. I want to design this project such that there is nothing better than the combined, finished project as a whole.