

Music Generation in ArtToMusic

Rafael De Smet

February 22, 2017

1 Music Generation

With the help of the library Beads ¹, the music is generated based on the graphical analysis. This library is just a helpful tool to produce sounds. It doesn't know anything about (good) musical patterns, rhythm or harmony. The only thing it does is generate a sounds, which is determined earlier on by the graphical analysis.

1.1 Rhythm

An integral part of music is the rhythm So I decided to use the edge detection of the image to determine the rhythm of the music. This is a work in progress. Later the entropy of an image will be added to this determination.

1.2 Harmony

Without a melody, there is no music. Any melody of a song is based on the rules of harmony, which notes sound good when played together, which don't? Which notes make up a chord? These kind of rules are the subject of harmony.

The program works with premade chord progressions. These are enumerations of a number of chords in a certain order which creates a melody. For example, the chord progression I-II-V-I is very familiar once you hear it. This means we play the first chord of the key we are in, then the second, then the

¹<http://www.beadsproject.net/>

fifth and the first one to end.

Based on how much of certain colors there are in the image we are analysing, we choose a different chord progression to work with. If there is a lot of red in the image, the program chooses the I-II-V-I progression, for instance. Other dominant colors lead to other chord progressions.