

Finding The Whale

an interactive media piece by Sam Smith,
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introduction

This installation was designed for an introduction to computer programming course final project. The project prompt was to create a program that utilized some form of artificial intelligence or machine learning. We chose to create a product that sonified tweets sent to our twitter account. The resultant sound would then be broadcasted via headphones to the user. The audio response of the program was created by resampling existing audio files based on natural language processing information from the tweet. This project utilized python, Twitter API, pyaudio, and portaudio. The project was inspired by musical pieces with alternative notation such as pictures and or drawings. We aimed to create music with this alternative medium, tweets.

Upon initialization, the program loads files in audio-Files folder. It takes the guitar, bass, drum, and vocal files and splits them into 10 second chunks, when it performs an FFT on the chunks and assigns each chunk two values between 0 and 1 corresponding to Frequency and Amplitude. It cleans the .txt file (Moby Dick) to strings with no special characters and trains the Language Model on the text. Based on the incoming Tweet stream, it assigns each Tweet a value based on average frequency of word in the tweet as compared to the language model and scales. This is compared to the Frequency for guitar and bass files, and amplitude for drum and vocal files. These are played back layered on top of each other.

source material

Finding The Whale (FTW) relies on two primary pieces of media to operate-- a source text and audio files. In the original presentation we chose to use Moby Dick by Herman Melville as the source text and a variety of isolated audio files (drums, keyboard, vocals, piano, etc.) as the source audio. We chose the classic novel for its antequated language and unique subject matter. Additionally, this text is lengthy and reflects common language phenomenon such as high frequency of words such as "and" and "the". The audio files were taken from a variety of sources such as commercial recordings and personal recording projects, all of which had unique timbre and feel.

inspiration

The approach to our code begins by destroying Moby Dick. The code mangles an artistry of writing - the ordering of words, spacings and capitalization and punctuation and all context the words are stripped. This reduces the intent of the novel to the means by which this intent is portrayed: the words themselves. Each word, in context meaningful and carefully selected, is exchanged for an objectivity, a number. This reduction allows for a formulaic base by which to evaluate through our lens of Tweets. The suggestion is that any text could have been used, as each word in it is just that - a word. While, sure, other books probably won't use "whale" or "harpoon" or "sea" as much, the words which are most likely to be tweeted at our account are the most generic - "the," "and," etc. These words are the most common words in any text. Evaluating a work for its words and not for its meaning yields nothing. Words have an objective meaning when taken out of their context, but this meaning is nothing without their context - context gives meaning, and that meaning is unstable and multiple, as is one of the core arguments for Post-Structuralist philosophy.

The final sonic result, outwardly having little to do with these intertextual deconstructions, actually does the same thing with music. It takes the natural, spontaneous inclinations of improvisation in music, hearkening back to the texts of madrigals, and assigns them an objectivity, in frequency base and amplitude, set by the computer. The intertextuality between incoming Tweets and Moby Dick also exists as a dichotomy between improvisational spontaneity and rigid counterpoint or aleatoric composition, and this schism is represented by the loud, noisy content of our source files - while each file maintains its own internal consistency, the compilation of disparate parts sounds cacophonous. They depict this fervor, the need to make, that drives creativity is not objective.