

Abstract

Music Information Retrieval (MIR) is a field to retrieve and process information from music files, can be metadata, such as title and singer, or content, such as tone, melody and tempo. *Query by Humming* is derived from the MIR field which is looking for a song in the database based on the content of the music as melody.

Query by Humming consists of two main stages, they are change the results of humming and music files in the database into the appropriate representation (using the technique of *Short Time Fourier Transform* (STFT)) and compare the results of humming and music files in the database (using the technique of *Approximate String Matching* (ASM)). STFT change the humming of the time-amplitude domain into time-frequency domain to obtain a sung melody. While ASM compares two strings and calculates how many basic operations that must be done to change the first string to second string. The smaller the result of this method, the more similar the two strings.

This final project will determine the proper *window* length in STFT and weighting the basic operation of the ASM to *Query by Humming*. Accuracy is determined by the success of the system to guess the song is sung. To generate many possible accuracy, the *window* is designed in several different segmentations wide and weighted base operations will also be conducted for several different values. From the draft, the accuracy of the system reaches 34.62%-61.54% for data set collected from experience singers and 9.38%-28.13% for data set collector from singers experienced in choir only.

Keywords: *music information retrieval* (MIR), *query by humming*, *short time fourier transform* (STFT), *approximate string matching* (ASM), *window*, *basic operation*