

Abstract

In the image and video file there is thumbnail to see the preview of the file, but in the audio or music file, see the preview of the file couldn't be seen. So we need a tool which can make the preview that represent the content of digital song file. In a song the part which represent the whole song is the chorus, because it's the core of the song and chorus is the most repeated part in a song.

Chroma-based representation is a representation of the human perception of pitch. In chroma-based representation, the pitch from a song will be mapped into 12 pitch of chromatic scale. With chroma-based representation we'll hope we can detect the which part of the song is repeated or have similarity with other part in a song.

Correlation is used to detect the repeated pattern from the chroma representation of the song. The software will detect whether a part of the song is repeated or not based on the result of the correlation calculation from the two different part of song's chromas. If the correlation result could detect that there is a repeated part of the song based on the song's chroma, then the conclusion is chroma can be used to search the similarity among parts of the song.

The result of this final project is chroma generally can be used to detect the repeated part of the song. But to make a sample from the song there is some more process to do. And based on the result we figure it out that the chroma-representation is related to several factors. The factors is amplitude of digital signal, variation and sum of instrument used in the song, vocal variation from the singer, and the song's cutting duration.

Key words: *chroma-based representation, correlation, repeated pattern, chorus.*