

# DJX: A Content-Based Recommendation System for Chinese Pop Songs

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With the advancement of digital electronics and computer technologies, the way people listen to music has experienced a revolutionary change in the past decade. Instead of visiting a CD store on the street, people now search their favorite songs online, via numerous music download websites, MP3 weblogs and peer-to-peer applications. Nowadays tens of millions of people in the greater China region are using music download services, which provide mainly popular songs in Chinese languages. Notwithstanding the convenience of accessing, distributing, sharing and owning, the lack of efficient indexing and searching tools has become a major burden, both for individual users and for the music providing industry. Audio-based music classification technology will be the solution leading to user-friendly and efficient search in the boundless world of music.

We are going to describe and demonstrate a recently developed music recommendation system, which is named DJX. Given a set of query songs from a user, the system can recommend similar songs that the user may find interesting. DJX is focused on Cantonese and Mandarin songs that are very popular in the greater China region, including Hong Kong, mainland China and Taiwan. It is a content-based system that measures music similarity based on the audio signals. There are a number of different modules in the system, which cover the aspects of singing voice characteristics, accompanimental music instruments, percussion sounds and tempo. Statistical modeling approaches have been adopted for pattern analysis and classification. After analysis, each music document is represented by a document vector that consists of the likelihoods with respect to different pattern classes. The similarity between music documents is then measured by comparing the respective document vectors.

The current version of DJX runs as a PC-based software. In the demonstration, we will show how the system responds to different input query songs and how the recommendation results are related to human subjective listening.