

MP3 音樂的聆賞情緒自動分類

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摘要

Far before any forms of verbal language emerged, human beings have learned to express their thoughts and feelings through vocal variations in tone and force. With the coming of the digital era, the application of digital multimedia data have been increasing, and content-based multimedia analysis has become the focus of recent research. Former content-based multimedia analysis focused mainly on low-level signal analysis.

Recent analysis, with great progress, has turned to center on high-level human perceptual and psychological analysis.

The purpose of this paper is to propose a musical mood model by studying the high-level emotional features that music has been bringing to human beings. Aimed at MP3 digital music and featuring primary low-level musical characteristics, we try to analyze perception-related high-level characteristics. As tempo, dynamics and key are believed to be the three main factors in influencing musical expression, we propose two approaches which will automatically detect the above factors in MP3 music. Then, these three factors will be transformed into three dimensions in the proposed emotional model, and combined and arranged so that they correspond to the eight mood classifications suggested by Hevner. By referring to these high-level perceptual features and the musical emotional models we have proposed, we will be able to automatically classify moods in MP3 music.

As music is in essence the media of hearing, perceptions, in many circumstances, are not sole or disjointed.

The result of mood classification in a song should be the combination of eight emotional tendencies.

Furthermore, audio media are often expected to be represented visually. In this paper we try to present mood

that music has brought to the hearer, the acoustic, visible and abstract emotions, by way of color. Hence, in

order to the proportion of each mood classification that music brings, we propose here a radar diagram showing

the correspondence between musical mood and color.

關鍵字 : content-based multimedia analysis, human perception, music emotion model, music visualization