

MOOD CLOUD 2.0: MUSIC MOOD BROWSING BASED ON SOCIAL NETWORKS

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ABSTRACT

This paper presents Mood Cloud 2.0, an application that allows to visualize and browse music by mood. With the first version of Mood Cloud [1], we could visualize in real-time the mood prediction of different Support Vector Machine models (one for each 'basic' mood). This helped to understand how well we can predict the mood evolution in time. Version 2.0 enables a new 2D visualization based social network data (see [2] for more details) and adds retrieval features. In this representation, we can visualize one's collection, observe the mood evolution of a song in time, and draw a path to make a playlist or retrieve a song based its time evolution. This 2D space is flexible, one can choose between different templates, the most innovative one being the representation extracted from social networks called semantic mood space [2]. The 2D semantic mood space was obtained using Self-Organizing Maps on tag data from last.fm. Each song of one's collection is mapped into the semantic mood space using its tags. Other modes and representations are proposed. If the tags are not available, we can use the autotagger function, which automatically adds tag to the piece and so place it in the semantic space. This technique is also used to evaluate the mood evolution of one song dividing it in segments of a few seconds. Additionally, pre-computed audio mood models are available (the updated models from Mood Cloud 1.0), which are state-of-the-art mood classification algorithms. For these models, the 2D representation can be changed using different axis. We allow the user to change the two dimensions, selecting between the existing audio models in Mood Cloud 1.0 (happy, sad, aggressive, relax and party). One can visualize his collection in the aggressive/sad or relaxed/happy spaces for instance. With both the autotagger and the mood models, any collection can be mapped and browsed into a 2D space. By analyzing the songs in windows of a few seconds, we can visualize, in the same space, the instantaneous mood and its evolution during the song. Finally drawing a path into that space can be used to make a playlist or to search for a song with this particular mood evolution in time.

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1. TECHNICAL DETAILS

This demo is coded in C++ for the back-end using libraries of the Music Technology Group (Essentia & Gaia). The analysis of the collection is stored in XML files. The front-end GUI is made with Flash. As it is a Flash application, it can be either local or online. A demo will be available online at :

<http://www.moodcloud.net>

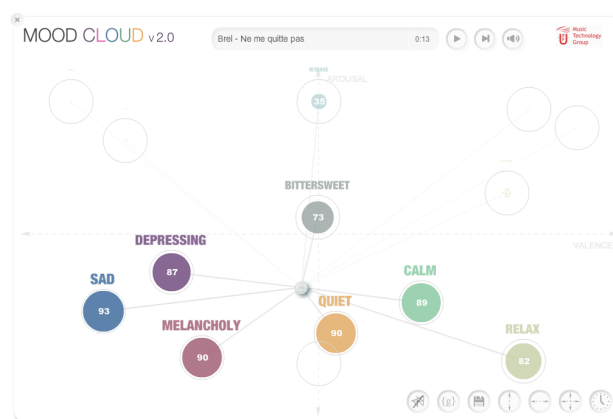


Figure 1. Mood Cloud 2.0 GUI

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3. REFERENCES

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