Sourcetone:
An Automated Music Emotion Recognition System

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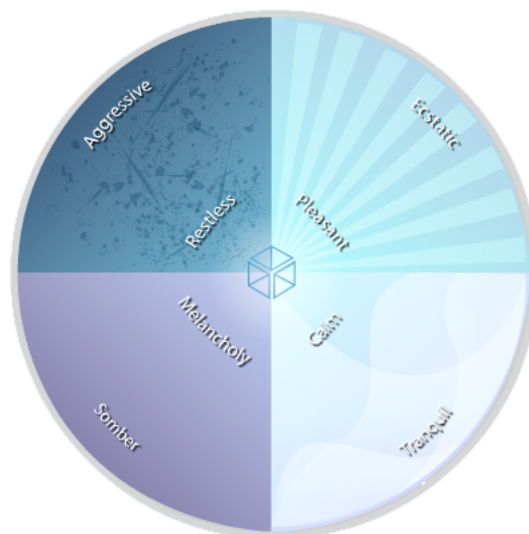[1]*Sourcetone, LLC*
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The capacity of music to induce an emotional response in its listeners is one of its most appreciated and least well-understood properties. Automated music emotion recognition (MER) systems attempt to model emotion induction or attribution in music. The uses of a MER system are manifold, from traditional applications such as managing personal music collections to promising new applications in music therapy for treating emotional disorders and improving the performance and well being of healthy individuals.

Sourcetone is an online music delivery system for promoting healthy and productive lifestyles using MER. Based on quantitative research examining psychological and neural effects of music, it aims to address specific therapeutic needs. The service provides an interface for generating a playlist by specifying a desired emotion in the emotion wheel pictured below.

We present a systematic study conducted to maximize the prediction performance of our automated MER system. We pose MER as a continuous regression problem in the Arousal-Valence (AV) plane. We begin with a carefully constructed data set, emphasizing quality over quantity. We address affect induction rather than affect attribution. We consider a variety of algorithms at each stage of the training process, from preprocessing to feature selection and model selection. We report the results of extensive testing and offer some proposals for advancing the state of the art.

The presentation includes a poster and a demo of the Sourcetone system.

The Sourcetone Emotion Wheel