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**ABSTRACT**

Music is categorized into subjective categories called genres. With the growth of the internet and multimedia systems applications that deal with the musical databases gained importance and demand for Music Information Retrieval (MIR) applications increased. Musical genres have no strict definitions and boundaries as they arise through a complex interaction between the public, marketing, historical, and cultural factors. This observation has led some researchers to suggest the definition of a new genre classification scheme purely for the purposes of music information retrieval Genre hierarchies, typically created manually by human experts, are currently one of the ways used to structure music content on the Web. Automatic musical genre classification can potentially automate this process and provide an important component for a complete music information retrieval system for audio signals.

For this project we are using audio data set which contains 1000 music pieces each of 30 seconds length. There are 100 pieces from each of the following genres: *classical (cl), country(co), disco(d), hip-hop(h), jazz(j), rock(ro), blues(b), reggae(re), pop(p), metal(m*).Later for our web-app we have chosen six popular genres namely classical, hip-hop, jazz, metal, pop and rock to get more accuracy. We use pattern recognition algorithms with Mel Frequency Cepstral Coefficients (MFCC) [1] as the feature vectors for classification.

We have tried different supervised learning algorithms for our classification problem. Input can be in any audio/video format. The final output will be a label from the 6 genres.

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**ABBREVIATIONS**

GEHU Graphic Era Hill University

MFCC Mel-Frequency Cepstral Coeﬃcients

FFT Fast Fourier Transform

TBF Triangular Bandpass Filters

DCT Discrete cosine transform

KNN K-Nearest Neighbor

SVM Support Vector Machine

LDA Linear Discriminant Analysis

MSD Million Song Dataset

HMM Hidden Markov Models

CCA Canonical Correlation Analysis

SRS Software Requirement Specification

HTTP Hypertext Transfer Protocol

URL Uniform Resource Locator

RBF Radial Basis Function

PCA Principal component analysis

**NOTATIONS**

*α* Scale parameter

*β* Depth angle in degrees

℮ exponent

hƟ probability of passing