A PROJECT REPORT ON

MUSIC RECOMMENDATION SYSTEM

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By

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CERTIFICATE

This is to certify that the Project report entitled

MUSICE RECOMMANDATION SYSTEM

is a bonafide work carried out by them under the supervision of Prof. Nimbalkar. S and it is approved for the partial fulfillment of the requirement of Savitribai Phule Pune University for the award of the Degree of **Bachelor of Engineering** (Computer Engineering)

This Project report has not been earlier submitted to any other Institute or University for the award of any degree or diploma.

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Abstract

Music is a great connector. It unites us across markets, ages, backgrounds, languages, preferences, political leanings and income levels. Music players and other streaming apps have a high demand as these apps can be used anytime, anywhere and can be combined with daily activities, travelling, sports, etc. With the rapid development of mobile networks and digital multimedia technologies, digital music has become the mainstream consumer content sought by many young people.

People often use music as a means of mood regulation, specifically to change a bad mood, increase energy level or reduce tension. Also, listening to the right kind of music at the right time may improve mental health. Thus, human emotions have a strong relationship with music.

In our proposed system, a mood-based music player is created which performs real time mood detection and suggests songs as per detected mood. This becomes an additional feature to the traditional music player apps that come pre-installed in our mobile phones. An important benefit of incorporating mood detection is customer satisfaction. The objective of this system is to analyse the users image, predict the expression of the user and suggest songs suitable to the detected mood.

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Chapter 1

Introduction

In the era of emerging technology, we have been living in the world where data is everywhere available about almost everything, the data only needs to be used properly and correctly in order and use the data making the users work more effortless. Recommender System is a system that seeks to predict or filter preferences according to the user's choices. Recommender systems are utilized in a variety of areas including movies, music, news, books, research articles, search queries, social tags, and products in general Recommender systems produce a list of recommendations in any of the two ways – Collaborative filtering: Collaborative filtering approaches build a model from user's past behaviour (i.e. items purchased or searched by the user) as well as similar decisions made by other users. This model is then used to predict items (or ratings for items) that user may have an interest in. Content-based filtering: Content based filtering approaches uses a series of discrete characteristics of an item in order to recommend additional items with similar properties. Content- based filtering methods are totally based on a description of the item and a profile of the user's preferences.

Chapter 2

Objectives

Content based filtering uses item features to recommend other items similar to what the user likes, based on their previous action or explicit feedback.

Chapter 3

3.1 Problem Statement

Design and Implementation of Music Recommendation System based on NLP And Content-based Filtering algorithm

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3.2 Future scope

There is a vast amount of data available in the digital era, in which we are living now. Most of the data i.e. about 79branch of data science, which helps to extract meaningful data and insight from, the raw available data. Here, NLP play's an important role in Data Science, especially in the field of text data which provides insight from text data. Experts have predicted that the demand for the NLP experts will grow exponentially in the near feature. Future scope of NLP explains that, In NLP machines are thought to process and interpret text as it is done by the humans. NLP is considered as the text analysis enabler and speech recognition applications. NLP having the capability of interpreting text makes the task of analyzing of large amount of data simple and productive.

Chapter 4

Details of Design of System

4.1 Overview of System Architecture

Dataset

We have downloaded dataset from Kaggle.com with 5000 music data.

Data pre-processing

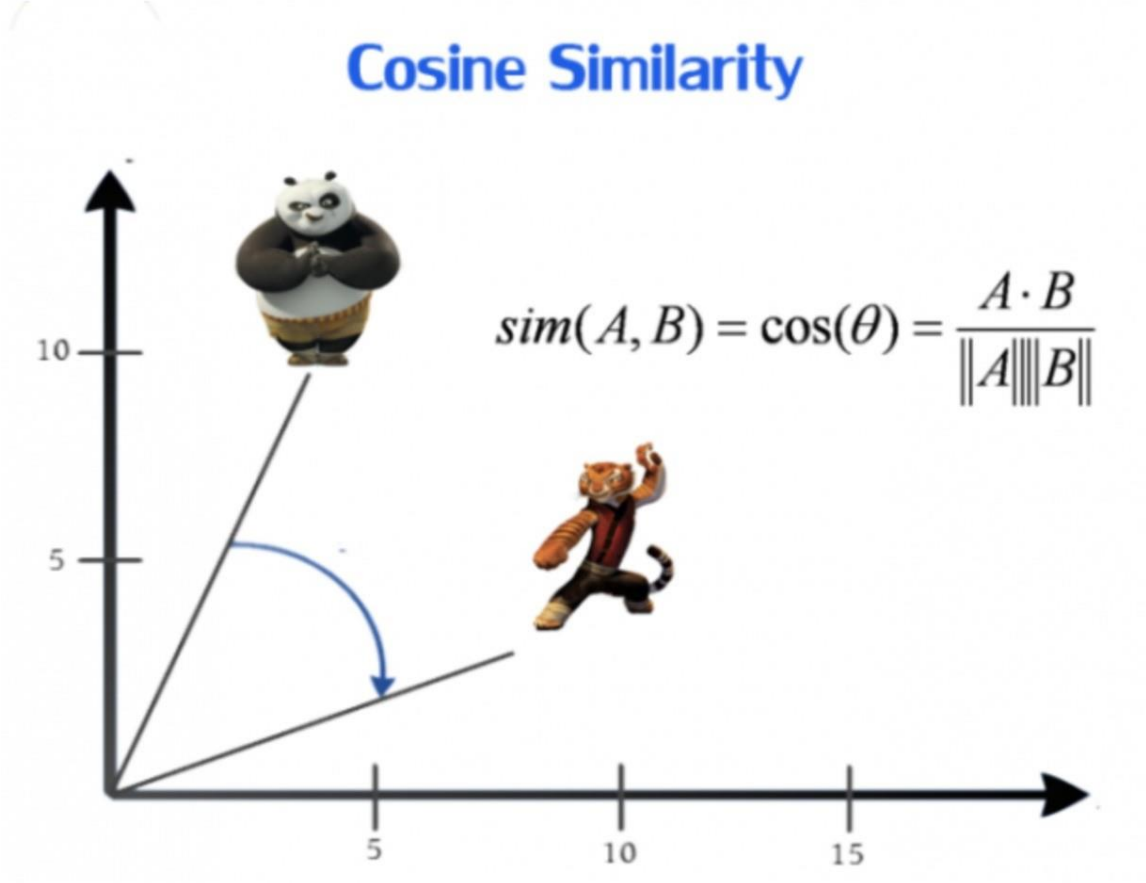
Data Loading, Data Viewing, Data Cleaning

NLP algorithm

In Machine Learning Natural language processing is a field in which computers understand, analyse, and derive meaning from the provided language or human language in a smart and useful and effective way. By using NLP, developers can learn, organize and structure knowledge which will help them to perform tasks such as automatic summarization , translation, named entity recognition, relationship extraction, speech recognition, and topic segmentation and many their task can be performed.

4.2 System architecture

After Pre-processing, testing and training the module, we moved on to design the Front-end for the developing the frontend we used Flask frame work. In thefront- end design, the user is asked to enter the Hollywood music on which they would like to have the recommendation. If the music is present in to the database, then based on the similarity matrix top 10 most similar movies are recommended by the system. / If the entered music is not present the system shows notification as" The Music You Entered is not Present in the Database Please Enter another Hollywood Movie". i. This figure shows that the Music iOS not in the data base or it's spelled wrong



Cosine similarity is a metric used to measure how similar two items are. Mathematically, it measures the cosine of the angle between two vectors projected in a multi-dimensional space. The output value ranges from 0–1. 0 means no similarity, whereas 1 means that both the items are 100

Conclusions

Chapter 5

The model has recommended vary similar movies. From my “domain knowledge”, We can see some similarities mainly based on directors, actor’s and other plot’s.
We trained and tested the recommendation system. The accuracy rate is 80provides very good prediction rate and is more reliable then the recommendation system based on collaborative filtering algorithm. Which is explained in content-based filtering (2.2) why we have used collaborative filtering?
We have built the Recommendation system using content-based filtering withthe of natural language processing .and conclude that the music recommendation system which uses content-based filtering is more reliable and provides more accurate prediction and doesn’t shows a new users/item problem when new oneis added