MUSIC RECOMMENDER SYSTEM

Institute of Engineering and Technology, Sage University, Indore

MUSIC RECOMMEDER SYSTEM

A Report submitted in

The partial fulfillment for the degree of

B. Tech.

Computer Science and Engineering

By

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Pursued in

Institute of Engineering and Technology

CERTIFICATE

This is to certify that the project report entitled **Music Recommender System** submitted by **Vinay Panwar, Vaishnavi Kaushal, Rupali wanare** to the INSTITUTE OF ENGINEERING AND TECHNOLOGY, INDORE, in partial fulfillment for the award of the degree of **B. Tech in (COMPUTER SCIENCE AND ENGINEERING)** is a *bona fide* record of project work carried out by him/her under my/our supervision. The contents of this report, in full or in parts, have not been submitted to any other Institution or University for the award of any degree or diploma.

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Counter signature of HOD with seal

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DECLARATION

I declare that this project report titled **Music Recommender System** submitted in partial fulfillment of the degree of **B. Tech in (COMPUTER SCIENCE ENGINEERING)** is a record of original work carried out by me under the supervision of Dr. Sachin Patel, and has not formed the basis for the award of any other degree or diploma, in this orany other Institution or University. In keeping with the ethical practice in reporting scientific information, due acknowledgements have been made wherever the findings of others have been cited.

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ACKNOWLEDGEMENTS

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ABSTRACT

The Recommender System is a system that provides customers with more reliable and friendly results (in this case it's a song). We learned about many recommender systems and their working and found out how most recommender system which provides the friendliest result. We used the traditional method with some improvement and try to build a system which generate more profound result.

As the recommender systems were the wide area to start, so we choose more sorted form of result which was song. Music recommendation also included many genres of songs like Hindi songs or English songs, so we preferred Hindi songs, and created a system which gives a list of songs based on some input parameter.

For more user-friendliness, we used feedbacks to provide user more accurate service. We are working to build more upgrade in our system including with movies, books, and more products to recommend.

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CHAPTER 1: INTRODUCTION

The Recommender system is a system that helps an algorithm or device to guess something for their respective users. There are many different types of recommender systems available in the tech industry and some of them are working positively as others are in the process of continuing to innovate to customize the product more and more.

With this idea in our mind, we choose to work on a recommender system that helps the user to understand their day-to-day requirements and make their decisions with clearer information in mind. As we all knew that recommender would be a very deep field to work in as today's user requirements and daily life activities are much more complex than we looked at first when we choose to work on all the areas. But after the realization of the problem, we choose to work with the music recommendation system.

How are these music applications recommending songs to their user, we got to learn, this is all based on the user's mood. I mean most of the time user is in a happy mood or natural mood or could be angry. There was so much vast majority of possibilities, so we tried to modularize them into small tasks(modules) we divided the task into three major phases and worked with and will continue to work on it.

Our problem was so basic to recommend any kind of music to a user but which song to refer which user at first looked much more complicated.

This model/UI Help user understand their moods and also let them decide which song they want to listen to feel their emotions.

CHAPTER 2: SPECIFICATION REQUIREMENTS

Requirement are the environments , services and technologies which were used to build the system. There are two types of requirements need to develop Music recommender system.

2.1 HARDWARE REQUIREMENTS

Hardware requirements include all the device which were get used in process of developing the recommender system. This include such as storage, processing unit, display, and audio speaker.

Requirements: Laptop or pc with below configuration	
RAM	8GB
ROM	1TB
PROCESSOR	i3 or successor
SPEAKER	Dual
Display	720p display or successor
Touch	Enable
Keyboard and mouse or touchpad	standard
Processor speed	2.5 ghtz

2.2 SOFTWARE REQUIREMENTS

Software requirement includes all the service which were requirement to develop an running UI, which made the whole difference in the process of development. There were some modules, and api required to develop the entire system.

Software requirements	
Python module	Tkinter, file, pandas, random, Spotipy
API	Spotipy
IDEs	Visual studio code, jupyter notebook, terminal environment
Access	Spotify
Application for documentation	PowerPoint, Word

CHAPTER 3: TECHNOLOGY USED

Many modern technology and practices had been used to develop a well functioning software that helps the people day routine become more crystal clear.

3.1 PYTHON MODULES

A python module is a file containing python definitions and statements. A module can define functions, classes, and variables. Grouping related code into a modules makes the code easier to understand and use. There are many different modules available in python i.e. numpy, pandas, matplotlib, scikit-learn, seaborn.

We used most of the modules of python while developing the system.

3.1.1 TKINTER

Tkinter is the most commonly used method. It is a standard Python interface to the Tk GUI toolkit shipped with Python. Python with Tkinter is the fastest and easiest way to create GUI applications. Creating a GUI using Tkinter is an easy task.

To create a Tkinter GUI :-

   a. Import Tkinter module using (import Tkinter)
   b. Create the main window (via creating reference)
   c. Add content to GUI
   d. Apply trigger events.

3.1.2 PANDAS

Pandas is an open-source library that is made mainly for working with relational or labeled data both easily and intuitively. It provides various data structures and operations for manipulating numerical data and time series. This library is built on top of the NumPy library. Pandas is fast and it has high performance & productivity for users.

Pandas is a software library written for the Python programming language for data manipulation and analysis. In particular, it offers data structures and operations for manipulating numerical tables and time series.

3.1.3 FILE