# **Music Recommendation System**

## **Overview**

This project is all about helping you discover new music that matches your tastes. It's like having a personal music assistant that suggests songs and artists you might like based on what you already enjoy listening to. Whether you're a die-hard music fan or just looking for something fresh, this system has got you covered!

## **Features**

### **1. Personalized Recommendations**

Get tailor-made music recommendations based on your listening history and preferences. The more you listen, the better it gets at finding new gems you'll love.

### **2. Real-Time Suggestions**

Discover new tunes in real-time as the system learns from your actions and suggests tracks that match your mood and vibe.

### **3. User-Friendly Interface**

Navigate through the app effortlessly with a simple and intuitive interface. Find what you're looking for without any hassle.

### **4. Easy Setup**

No tech wizardry required! Just follow a few simple steps to set up the system, and you'll be on your way to discovering your next favorite song.

## **Getting Started**

### **Installation**

1. Clone this repository to your local machine.
2. Install the required dependencies by running pip install -r requirements.txt.

### **Setting Up the System**

1. Ensure you have Python installed on your computer.
2. Make sure you have a MongoDB database set up to store user data and preferences.
3. Set up Apache Kafka for real-time data processing and recommendations.

### **Running the System**

1. Run the data extraction script to gather information about songs and artists.
2. Use the feature extraction script to extract audio features from the music dataset.
3. Train the recommendation model using machine learning techniques.
4. Start the web application to explore personalized music recommendations.
5. Generate real-time suggestions by running the real-time recommendation script.

## **Usage**

1. Visit the web application in your browser.
2. Log in or create an account to start receiving personalized recommendations.
3. Browse through suggested tracks and artists, and discover new music that resonates with you.