**Project: Music Recommendation System**

**Problem Statement:**

**Business objective**- The aim of this project is to build a feature of recommendation system to support a music app. As the first phase we need to develop the proof of concept to make the client understand how effective the feature could be.

POC for Recommendation Engine for a Yoga, Relaxation or Devotional Songs Music application targeted for Indian users

**Steps to follow in project:**

1. **Data Collection:**

Collecting music dataset from Kaggle and different website.

1. **Data Cleaning and Exploratory Data Analysis (EDA):**
2. **Load the Dataset:**

Use pandas to load dataset, we can use (pd.read \_csv),(pd.read\_excel).

1. **Inspect the Data:**

Display the first few rows to get an overview of the data using

head(). Check for missing values using isnull().sum().

1. **Handle Missing Values:**

Handle or remove missing values based on the nature of the data.

Consider using techniques like mean imputation or advanced imputation methods.

1. **Checking Duplicates Values:**

Duplicated records; handling duplicates.

1. **Explore Data Distributions:**

Visualize the distributions of numerical variables using histograms, box plots, or kernel density plots. Utilize seaborn and matplotlib for creating visualizations.

1. **Data Visualization**
2. Scatter Plot
3. Pairwise Plot
4. Correlation and Heat Map
5. **Feature engineering**
   1. Label Encoding or One Hot Encoding
   2. Handling Outliers
   3. Features Scaling

* Normalization
* Standardization
  1. Transformations
  2. Feature Selection
  + Uni-Variate Selection
  + **Recursive Feature Eliminator**
  1. PCA

1. **Similarity Calculation**

Compute similarity between songs

* Cosine Similarity

1. **Model deployment**

* Using Streamlitdeployment python script which contains best model