# HOME

**Problem statement:** Many musicians and music industry professionals struggle to understand what makes a song popular and how to improve less popular songs. This can lead to a lack of success in the industry, as well as frustration and confusion about how to create music that resonates with audiences.

**Objective:** The Spotify Data Analytics project aims to use data analytics to provide insights into what makes a song popular and how to improve less popular songs. By analyzing songs based on various parameters, the project provides a data-driven approach to understanding what listeners respond to and how to create music that is more likely to be successful.

**Addressing the problem:** To address the problem, the Spotify Data Analytics project begins by analyzing songs based on parameters such as danceability, energy, key, loudness, mode, speechiness, acousticness, instrumentalness, liveness, valence, and tempo. These parameters are chosen because they are known to be important factors in determining the popularity of a song.

The project then compares popular and less popular songs based on these parameters to identify areas where less popular songs can be improved. For example, if less popular songs tend to have lower energy or lower danceability than popular songs, the project may recommend increasing these values to make the songs more appealing to listeners.

By providing data-driven insights into what makes a song popular and how to improve less popular songs, the Spotify Data Analytics project helps musicians and music industry professionals better understand what audiences respond to and how to create music that is more likely to succeed. The project provides a valuable tool for anyone looking to improve their chances of success in the music industry.

# ABOUT US

About Us:

Our team of four students from KIIT University's 3rd year CSE undergraduate program has collaborated to create a data analytics project under the guidance of Prof. Hrudaya Kumar Tripathy. Our team consists of

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Our project analyzes songs based on various parameters such as danceability, energy, key, loudness, mode, speechiness, acousticness, instrumentalness, liveness, valence, and tempo. By comparing the features of popular and less popular songs, we aim to provide data-driven insights to musicians and music industry professionals to help them understand what makes a song popular and how to improve less popular songs.

Our project is significant because the music industry is highly competitive, and musicians and industry professionals often struggle to understand what makes a song successful. Our data analytics project offers insights that can help professionals in the industry make informed decisions and improve their chances of success.

Looking to the future, we hope to expand the scope of our project by incorporating more advanced data analytics techniques and exploring additional factors that influence the popularity of a song. Our team is committed to ongoing research and development in the field of music analytics to help musicians and industry professionals achieve greater success in the industry.

# VISUALIZATIONS

# RESULT

In this project, we analyzed a dataset of songs obtained from Kaggle, based on various parameters such as danceability, energy, key, loudness, mode, speechiness, acousticness, instrumentalness, liveness, valence, and tempo. Our goal was to gain insights into what makes a song popular and how to improve less popular songs.

We began by performing data cleaning and pre-processing to ensure the accuracy and consistency of the data. This included removing duplicates, filling missing values, and converting data types where necessary.

Next, we conducted exploratory data analysis to gain insights into the distribution of the various parameters among the songs in our dataset. We plotted bar charts, box plots, and scatter plots to visualize the data and identify any trends or patterns.

We then analyzed the correlation between the parameters and the popularity of the songs, and found that danceability, energy, loudness, and tempo had the greatest impact on a song's popularity. We also compared the average values of these parameters between popular and less popular songs and found that there were significant differences between the two groups.

Based on these insights, we provided recommendations for improving less popular songs. For example, we found that less popular songs had lower values for liveness and speechiness, so increasing these parameters could help improve their popularity. Similarly, less popular songs had higher values for acousticness and instrumentalness, indicating a need for more emphasis on vocals and lyrics.

Overall, this project provided valuable insights into what makes a song popular and how to improve less popular songs, using data-driven analysis.

**Visuals**