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**Report: Spotify Data Visualization Dashboard**

**Objective:**

The purpose of this Streamlit-based dashboard is to provide an interactive platform for visualizing and analyzing the most streamed Spotify songs in 2024. Users can explore various aspects of the dataset, such as top albums, artists, tracks, and more, through a series of visualizations.

**Dataset:**

**Link : https://www.kaggle.com/datasets/nelgiriyewithana/most-streamed-spotify-songs-2024/data**

The dataset, Most Streamed Spotify Songs 2024.csv, includes information on various tracks, albums, and artists on Spotify and other streaming platforms but I only used the data related to Spotify

Key columns include:

* **Track Name**: Name of the song.
* **Album Name**: Name of the album the song belongs to.
* **Artist**: Name of the artist(s) of the song.
* **Release Date**: Date when the song was released.
* **ISRC**: International Standard Recording Code for the song.
* **All Time Rank**: Ranking of the song based on its all-time popularity.
* **Track Score**: Score assigned to the track based on various factors.
* **Spotify Streams**: Total number of streams on Spotify.
* **Spotify Playlist Count**: Number of Spotify playlists the song is included in.
* **Spotify Playlist Reach**: Reach of the song across Spotify playlists.
* **Spotify Popularity**: Popularity score of the song on Spotify.

**Preprocessing Steps:**

1. **Data Cleaning**:
   * Removed duplicates.
   * Converted numeric columns (Spotify Streams, Spotify Playlist Count, Spotify Playlist Reach) from string to float after removing commas.
   * Filled missing values in categorical columns like Artist with "Unknown Artist".
   * Handled missing values in numeric columns (Track Score, Spotify Streams, Spotify Playlist Count, Spotify Playlist Reach, Spotify Popularity) using median or mean imputation.
2. **Exploratory Data Analysis**:
   * Created several visualizations to explore the dataset and uncover insights.

**Visualizations Available:**

The dashboard provides several visualizations to help understand the dataset better. Users can select a specific visualization from the sidebar:

**Customization and Interaction:**

* **Sidebar Navigation**: Users can easily switch between different visualizations using the sidebar navigation.
* **Sidebar Image**: An image of the Spotify logo is displayed on the sidebar to enhance the aesthetic appeal of the dashboard.
* **Plot Customization**: Each plot is customized with appropriate titles, labels, and color palettes to enhance readability and engagement.

Drive link: https://drive.google.com/drive/folders/1Kv16v1DuwT339K3No-hZYN22ouRN8xvZ?usp=sharing