School of Computing

SRM INSTITUTE OF SCIENCE & TECHNOLOGY
(Deemed to be University u/s 3 of UGC Act, 1956)

DESIGN AND ANALYSIS OF ALGORITHM SPOTIFY MARKETING STRATEGY

Abstract

This project explores music trends and listener behavior using Spotify's dataset, which includes features like danceability, energy, popularity, and more. Through data analysis and visualization techniques, we uncover patterns across genres, years, and audio features. These insights help understand listener preferences and can be used to support data-driven decisions in music recommendation systems and marketing strategies.

Objectives

- Analyze audio feature distributions across genres and years
- Identify patterns in song popularity
- Explore correlations between musical attributes
- Provide insights to improve recommendation engines and marketing campaigns

Key findings

- Danceability and energy are strong indicators of song popularity
- Pop and Hip-Hop dominate in terms of stream counts and popularity
- Songs with shorter duration tend to be more popular in recent years
- Strong correlation between valence (positivity) and popularity in certain genres

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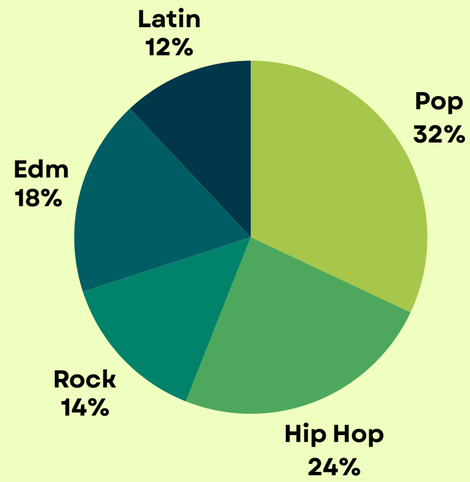
Year : 3rd Year CSE BDA
Dept : DSBS Section : AD2

Tools and Technologies:

- Python (Pandas, NumPy, Seaborn, Matplotlib)
- Google Colab / Jupyter Notebook
- Scikit-learn (for clustering/trend prediction, if used)

Pie chart



Methodology

- Data Collection: Spotify Dataset from Kaggle
- Data Cleaning: Handling duplicates, null values
- Feature Engineering: Categorizing by genre, release year, etc.
- Analysis Tools: Descriptive statistics, correlation heatmaps
- Visualization: Histograms, scatter plots, box plots

Conclusion

Data-driven insights from Spotify's dataset reveal evolving trends in music. These findings can be leveraged by artists, producers, and platforms to tailor content strategies, improve user engagement, and personalize music recommendations.