DataVis Final Project Proposal

Basic Info

Project Title

Visualization tool for most streamed songs released in 2023 on Spotify

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Overview

This visualization tool enable users to know what kind of music people are listening to and what kind hit songs artists are putting out in 2023. Such as their BPM, modes (major, minor), danceability and more.

Data and Data Processing

Most Streamed Spotify Songs 2023 | Kaggle

This dataset contains a comprehensive list of the most famous songs on Spotify. There are approximately 900 songs in this dataset, and we will use the above dataset and filtered out all the 2023 released song as our data. Each song within this dataset is associated with 24 variables, providing a detailed description of the track.

Attribute	Description
track_name	Name of the song.
artist(s)_name	Name of the artist(s) of the song.
artist_count	Number of artists contributing to the song.
released_year	Year when the song was released.
released_month	Month when the song was released.
released_day	Day of the month when the song was released.
in_spotify_playlists	Number of Spotify playlists the song is included in.
in_spotify_charts	Presence and rank of the song on Spotify charts.
streams	Total number of streams on Spotify.
in_apple_playlists	Number of Apple Music playlists the song is included in.
in_apple_charts	Presence and rank of the song on Apple Music charts.
in_deezer_playlists	Number of Deezer playlists the song is included in.
in_deezer_charts	Presence and rank of the song on Deezer charts.
in_shazam_charts	Presence and rank of the song on Shazam charts.
bpm	Beats per minute, a measure of song tempo.
key	Key of the song.
mode	Mode of the song (major or minor).
danceability_%	Percentage indicating how suitable the song is for dancing.
valence_%	Positivity of the song's musical content.
energy_%	Perceived energy level of the song.
acousticness_%	Amount of acoustic sound in the song.
instrumentalness_%	Amount of instrumental content in the song.
liveness_%	Presence of live performance elements.
speechiness_%	Amount of spoken words in the song.

Usage Scenarios & Tasks

Users

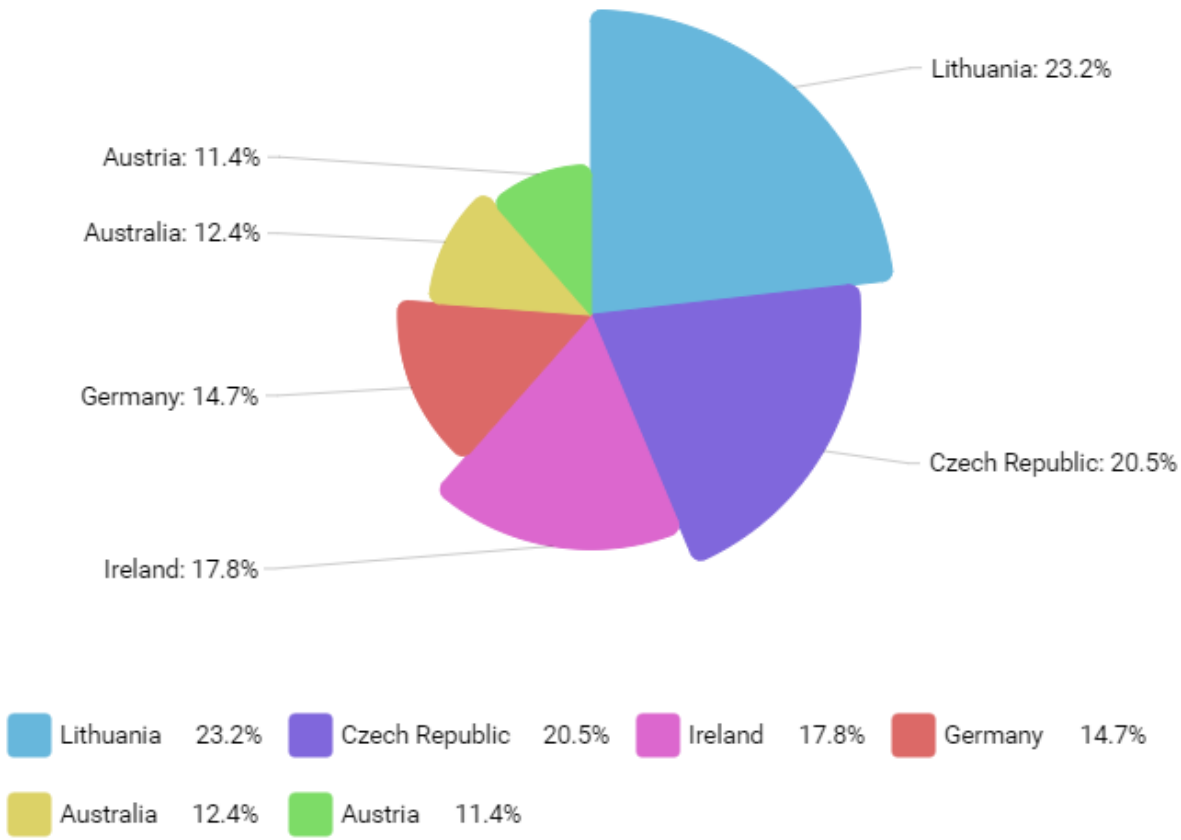
- Record Labels: Find out potential hits using these data and when to release them.
- Average Music Listeners: Get to know what's trending in 2023

Tasks

- Find out which month produce the most hits
- See what the audiences prefer (High/Low Energy, High/Low BPMs etc.)
- Correlations between attributes of a song

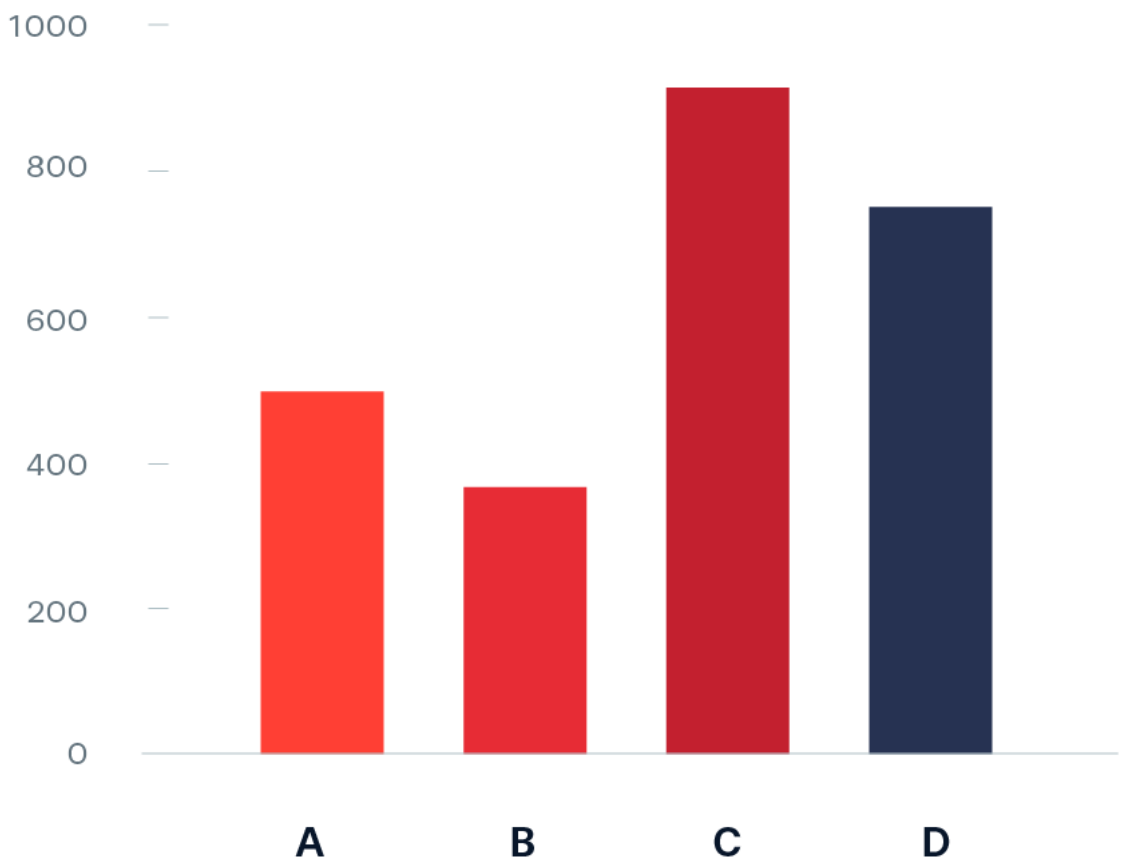
Visualization Design & Sketch

1. Radius Pie Chart: BPM Intervals



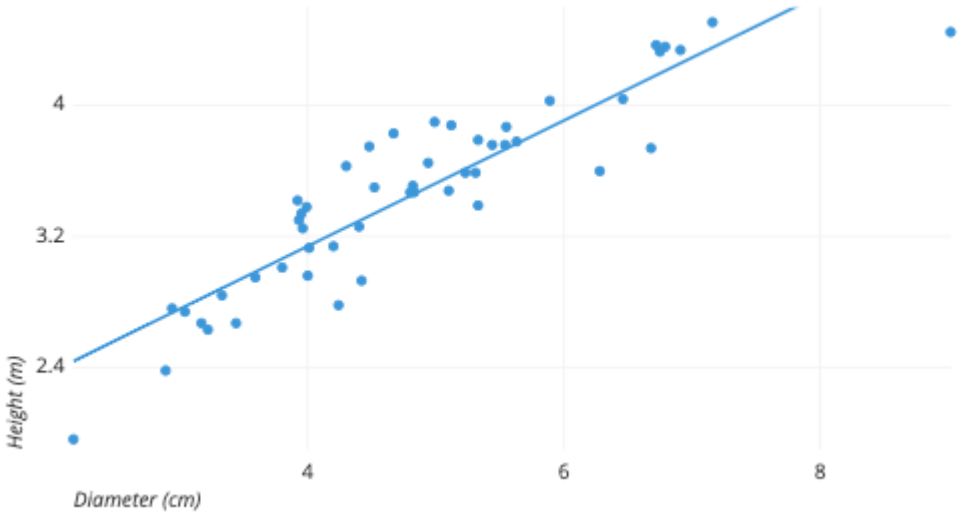
Show precentages for each BPM interval with radius pie chart.

2. Bar chart: Hit songs released in each month



Show number of hit songs released in each month in 2023. Users can drag and select specific months which will update all the views in this tool.

3. Scatter Plot: Show two attributes on this dataset



User can select two attributes in this dataset to get a scatter plot and see if there is any correlation through the trend line. The radius of the dot will also be used as number of songs. There will be tooltip when mouse is hovered above the dot to show the dot's info.

Work Breakdown and Schedule

Task	Description	Expected Working Hours
Data Preparation	Download relevant data and apply necessary filters.	1
Radius Pie Chart	Generate radius pie chart based on BMP intervals.	2
Bar Chart	Create a bar chart illustrating the monthly count of song releases.	2
	Integrate user interaction: Users can brush along the x-axis to select specific months.	2
	Implement sorting functionality for both months and song counts.	2
Scatter Plot	Develop a scatter plot based on danceability and energy attributes.	2
	Enhance the scatter plot with trend lines.	1
	Introduce tooltips for each data point.	1
	Implement the ability to select any two attributes dynamically.	2
User Interaction and Data Synchronization	Establish mechanisms to filter data based on user actions.	1
	Ensure synchronization across all charts in response to user interactions.	2