Data Visualization and Visual Analytics HW9 Report

In this homework, I created 3 different charts to visualize the insights of this dataset. Use the buttons on the top of the page to select different charts.

Chart1: Popularity Ranking Bar Chart

In this chart, I counted the average popularity of every category of song, sorted them by their popularity, and visualized it with a bar chart. The x-axis is their popularity, ranging from 1 to 100, and the y-axis is the name of every category.

From this chart, I found that ***pop-film***, ***k-pop***, and ***chill*** got the highest average popularity, while ***latin***, ***romance***, and ***iranian*** got the lowest.

As for the chart Interactivity, the bars are rendered with different colors by their values, and can be focused when putting the cursor on them.

Chart2: Artist Scatter Plot Chart

In this chart, I counted the number of songs and average popularity of every artist and visualized it with a scatter plot chart. The x-axis is their popularity, ranging from 1 to 100, and the y-axis is the number of songs.

From this chart, I found that most artists have no more than 20 songs, and the average popularity is between 20 and 60. Those who made many songs with high average popularity are all famous singers or groups, such as ***BTS*** (184 songs, 68.87 average popularity) and ***The Beatles*** (280 songs, 60.99 average popularity).

Another fact I found is that some artists made a lot of songs but with low popularity, such as ***Bad Bunny*** (416 songs, 29.91 average popularity) and Jhayco (269 songs , 5.83 average popularity).

As for the chart interactivity, the dots can show the stats when putting the cursor on them.

Chart3: Audio Feature Correlation Matrix

In this chart, I calculated the correlation coefficient of all combinations of audio features, and visualized it with a matrix.

From this chart, I found that some pairs have relatively higher correlation.

- **energy - loudness (0.76) :** it is very reasonable that songs with more energy are louder.
- **energy - acousticness (-0.73) :** The style of songs with more energy are often related to electronic music, which has lower acousticness.
- **danceability - valence (0.48) :** higher valence value means more positive emotion in the song, which is more suitable for dancing.

As for the chart interactivity, the blocks can be focused when putting the cursor on them. The block, corresponding feature name blocks, will be highlighted by a red border.