Music Evolution Website: Music Evolution Website

Visualization 1

This multi-line chart uses Altair to track how hit song characteristics changed from 1980 to 2020. I designed it with time on the x-axis and normalized feature values (0-100) on the y-axis to make trends immediately visible. Each feature gets a distinct color for easy identification. The dropdown interaction allows users to isolate individual features or view all simultaneously, which prevents visual clutter while maintaining its exploratory capabilities. I chose 5-year periods instead of yearly to smooth out some of the noise and show more genuine trends in the data.

Visualization 2

This grouped bar chart uses Altair to compare genres side-by-side across the same 5 features that are being represented in Visualization 1. I placed genres on the x-axis for easy comparison and used identical feature colors to maintain consistency between visualizations. When a user selects an orange bar, all orange bars are highlighted across every genre, so users know they are looking at their selected feature. I chose a bar chart over other types of charts because I think they do a much better job of emphasizing the magnitude of an underlying feature within a genre of music.

Visualization 3

This visualization is a bar chart that shows the top 30 tracks in this dataset, analyzing their popularity and the decade they are from. In this visualization, Altair is used. On the y-axis, it is the track name. This is because the tracks can be read by the user easily. On the x-axis, the popularity ranking goes from 0 to 100. The top 30 songs are grouped by decade. There is an interaction where the user is able to highlight a bar and it highlights all of the songs within their decade. The user can compare the popularity rankings in the decade. The reason for this design is to show how popularity has shifted over the past 60 years. With this visualization, the user can see how much more popular music has become, especially with the rise in technological advancements and social media spotlighting songs.

Visualization 4

This visualization is a bubble chart showing the energy of songs along the x-axis and their danceability along the y-axis. Bubble size represents popularity, while color is used to distinguish between genres. A temporal slider at the bottom allows users to view individual decades, preventing visual overload and making it easier to compare how musical characteristics shift over time. Both axes use a consistent 0.00–1.00 scale across all periods, enabling clear, direct comparisons between decades. The pastel color palette provides strong genre differentiation while remaining visually balanced, even when hundreds of bubbles are displayed in later decades. With this design, users can explore multidimensional musical data in an intuitive way, gaining insight into how genres, popularity, and audio features have evolved across seven decades.

Visualization 5

This visualization is a heatmap, showing the length of songs over the decades. In this visualization, D3 is used. On the x-axis, the duration of music in seconds. This ranges from 0 seconds to 600 seconds. On the y-axis, the decades range from 1950 to 2025. There is an interaction where the user can click the sidebar and click a decade. This allows the user to see the length of songs and the song genres within each decade. The reason is that the user can see the spread in the length of music and genres between the decades. With this visualization, the user can not only see the change in music length over the decades but also see the increase in songs and the length of different genres throughout the decades.