Wave Match

Based on personal experiences when listening to music and trying to get new matches, the current automated recommendations that we get need to allow us to specify what attributes we want recommended music to have based on. We would like to change that by creating Wave Match, which is an application that will be used to enhance a user's listening experience. Ideally, we would have multiple input sources, such as a single song, list of songs, link to a playlist, or sign-in with their Spotify account to access user data. Based on the input type, Wave Match will generate songs in the form of a list that matches the attributes of the songs in the current playlist. The list of generated songs can be narrowed based on attributes that we record in our database. Although there are many recommendation applications available, our project aims to narrow down the musical attributes of the songs that the user listens to, allowing for a better understanding of their preferences and recommendations.

The information being stored in the database would be tracked from Spotify where each track would have the following attributes: Track_id, artists, album_name, track_name, popularity, duration_ms, explicit, danceability, energy, key, loudness, mode, speechiness, acousticness, instrumentalness, liveness, valence, tempo, time_signature, and track_genre. The starting database we are using is a dataset sourced from https://www.kaggle.com/datasets/maharshipandya/-spotify-tracks-dataset. This is a large existing dataset of many songs which were sourced from the Spotify API. If we need information on additional songs not included in that dataset, these API calls can give us the attributes found in the dataset. (https://developer.spotify.com/documentation/web-api/reference/get-audio-features https://developer.spotify.com/documentation/web-api/reference/get-track)

A creative component we can implement will include data visualization where we would display attributes such as the listener's preferred tempo, energy, popularity, etc., based on either listening API data or input from a given playlist. This feature will display substantial evidence of the type of music that users listen to from a different scope in contrast to what they usually look through, specifically through song attributes instead of the music genres. We plan on implementing this component in connection to the database setup and provide a section in the web application for users to search their music based on the song attributes. As such, in the web application, we aim to provide the user with a list of the user's favorite songs based on music attributes alongside a visual data representation of their music interests. In order to ensure the project work is being distributed equally, we have split the work up as follows: Data cleaning + API calls to/from databases & to/from Spotify API- Shaarav + Krushank, Data Visualization - Krushank + Shaarav, Frontend - Tyler+Nick+Shaarav+Krushank, and Database setup - Tyler+Nick.

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Input 🟢 Spotify   OR   Playlist or Song Link

Compare By [Genre, Tempo, Energy] Sort By [Popularity ∧] [Export]

	Song Name	Artist	Genre
☑	Song Name	Artist	Genre
☐	Song Name	Artist	Genre
☐	Song Name	Artist	Genre
☐	Song Name	Artist	Genre
☑	Song Name	Artist	Genre
☐	Song Name	Artist	Genre
☐	Song Name	Artist	Genre
☐	Song Name	Artist	Genre