Team name: JAM Team

Team Members: Maxmilian Pennisi, Jeffrey James, and Anthony Zurita

Project title: Custom Spotify Playlist Generator

Problem: What problem are we trying to solve?

We aim to address the challenge of ensuring access to quality, custom-made music for everyday individuals.

Motivation: Why is this a problem?

In people's busy lives, they don't have the time to make a personalized playlist based on the preferences they want. They willingly accept the songs generated by the spotify algorithm. Our program would allow the user to select whatever genre,artists, and other characteristics they want, and would generate a playlist for them.This would allow people to create custom playlists for different events and parts of their life, such as for workouts, parties, and other relevant events.

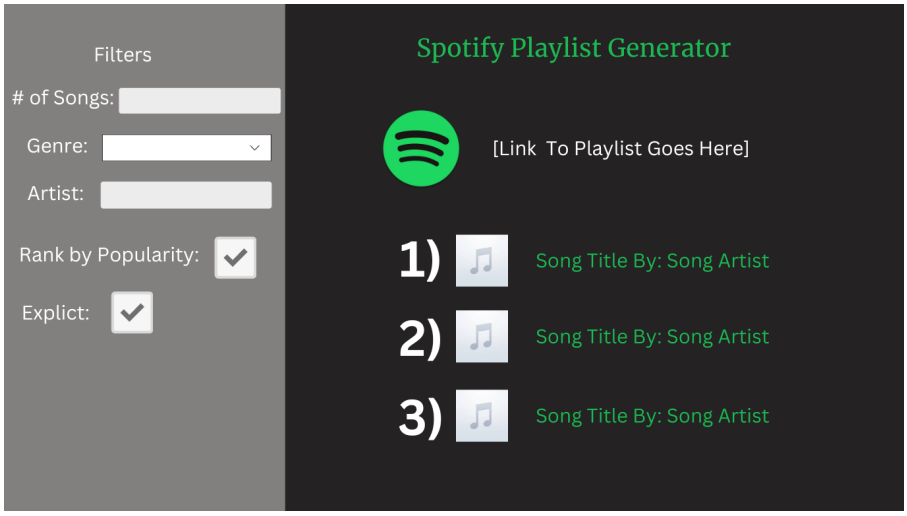
Features: When do we know that we have solved the problem?

We know that the problem has been solved once there is an effective and efficient manner of creating custom playlist options for individuals based on their needs.

Data: Link to Spotify data set:
https://www.kaggle.com/datasets/maharshipandya/-spotify-tracks-dataset

Tools: The programming languages, tools, and frameworks we will be using are HTML, CSS, Javascript, Pandas, and Python.

Visuals:



https://www.canva.com/design/DAFx6gY2kyU/LetsI8c_ySque3BWTufKzA/edit?utm_content=DAFx6gY2kyU&utm_campaign=designshare&utm_medium=link2&utm_source=sharebutton

Choice of filters on the right, will generate a link to a playlist and provide a preview of three songs in the playlist.

Strategy: Preliminary *algorithms* or *data structures* you may want to implement and how would you represent the data.

We would be using a Min/Max Heap and a Red and Black Tree to store and analyze the different songs from the database. We will compare the efficiency between using a Min/Max heap and a Red and Black Tree to curate custom playlists. The data would be stored in nodes that would have the relevant characteristics of each song. We would implement a frontend, to allow the user to easily set their choices without having to interact directly with the code and data.

Distribution of Responsibility and Roles: Who is responsible for what?
Max: Set up frontend using specified languages and develop data structures to store and characterize data.
Anthony: Set up routing between frontend and Spotify API, and process authorization for access with individual spotify accounts.
Jeffrey: Process the data using Pandas and implementation of the data into the data structures.