CS464 TERM PROJECT PROPOSAL

Project Title
Building Spotify Playlists Using Machine Learning

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Description of Data
We will use a dataset named "Spotify Dataset 1921-2020, 160k+ Tracks" which is on Kaggle. This dataset includes many different features of songs that are on Spotify. Some of the features represent the mood of a song such as danceability, energy, valence, tempo. These are measures from 0.0 to 1.0 except tempo, which is the BPM (Beat Per Minute) of the song that typically ranges from 50 to 150. Some of the features represent the properties of the sound of a song such as loudness, speechiness, instrumentalness, and mode. These are also some measures from 0.0 to 1.0 except loudness (it ranges from -60 to 0). And also, there are some contextual features of a song in the dataset, which are acoustic and liveness. In the dataset, there are also some properties that are independent from the audio features of a song which are id of a song, duration of a song, year of a song, and whether it has explicit content or not.

Question we are trying to answer with our data
We are trying to create playlists with the songs that have similar features to a single song or multiple songs, or even an artist chosen by the user. Having said that, we are aimed to create new playlists that satisfy user taste. While we are trying to achieve this, we will utilize machine learning algorithms and methods. And the dataset that we will use will help us to detect similarity between songs according to their features and measures. We plan to measure how successful the results of the project will be with the surveys we will make to the user.

What we want to achieve as Milestone
We want to determine which machine learning techniques and models we will use in the project until the mid-semester demo. We will use at least 3 machine learning techniques until the final version of the project. We will show how we can get data from Spotify Web API and how to manipulate these data in mid-semester demo. We want to plot the necessary data from the dataset.