SPOTIFY SONG GENERATOR

Aiming to provide more personalized recommendations - TEAM 5

Executive Summary

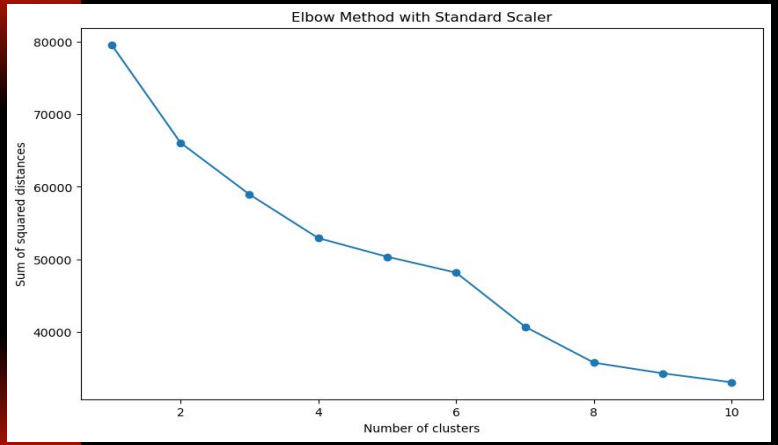
Overview: We aim to improve Spotify song recommendations by creating a content based recommendation system which is built around user preferences and key musical attributes.

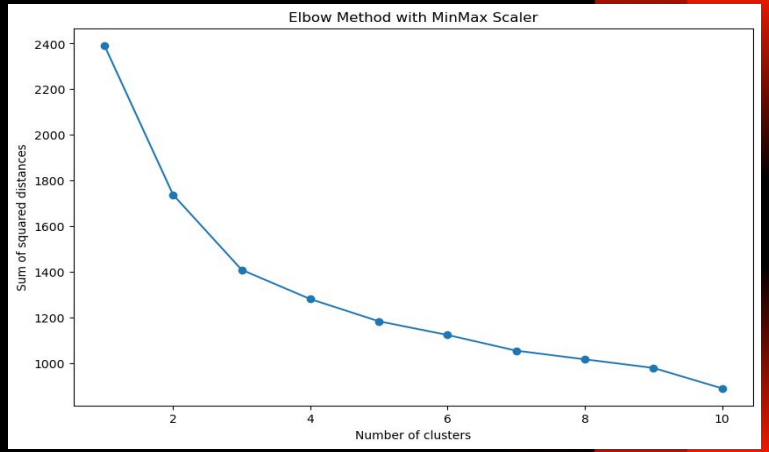
Process & Approach

- Selected a spotify dataset with 10,000+ songs
- Data Exploration found the genres column to be unusable
  - There were too many genres (over 800!)
  - Genres were assigned to the artist rather than a song.
- With no feature suitable for classifying songs we selected to use Unsupervised Learning Models

Results of Analysis

- The elbow method was applied to find the best scaler and k-value

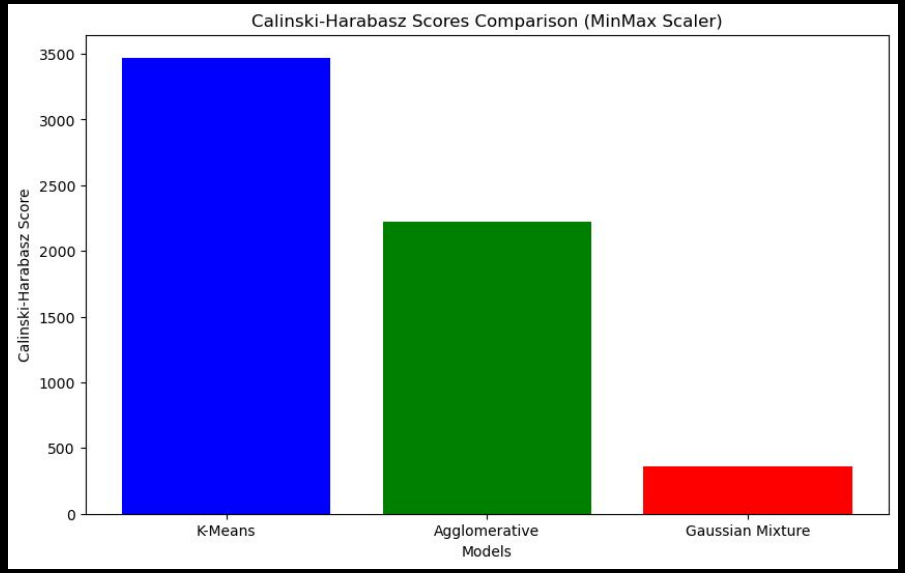




- MinMax Scaler has a better elbow curve
- The best K-value is 3

Results of Analysis

- The Calinksi-Harabasz Score from three unsupervised models were compared. K-means had the highest score.



- The dataset was further refined to identify the important features to use in our recommendation system.

Model Features

1 

Danceability -
Represents how suitable a track is for dancing.

2 

Energy -
Measures the intensity and activity of the song.

3 

Speechiness-
Measures the presence of spoken words in the track.

4 

Instrumentalness-
whether a track contains high to low level of vocals

5 

Valence -
Represents musical positivity or mood.

6 

Tempo -
Measures Song Speed

7 

Liveliness -
Measures if a song has live Performance Characteristics

8 

Acousticness -
measures how much of a song is acoustic rather than electronic or synthesized

DEMO

Next Steps

- Embed Spotify links for the Songs
- Add in audio preview of the song(s)
- Having a feature that allows us to look up a song and set its features as our default

Q&A

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