Spotifynd Music Exploration Application

www.spotifynd.ml

Tanner Christensen, Tyler Dotson, Nathan Miller, Rishi Rebello, Weiyang Wang

Motivation/Introduction

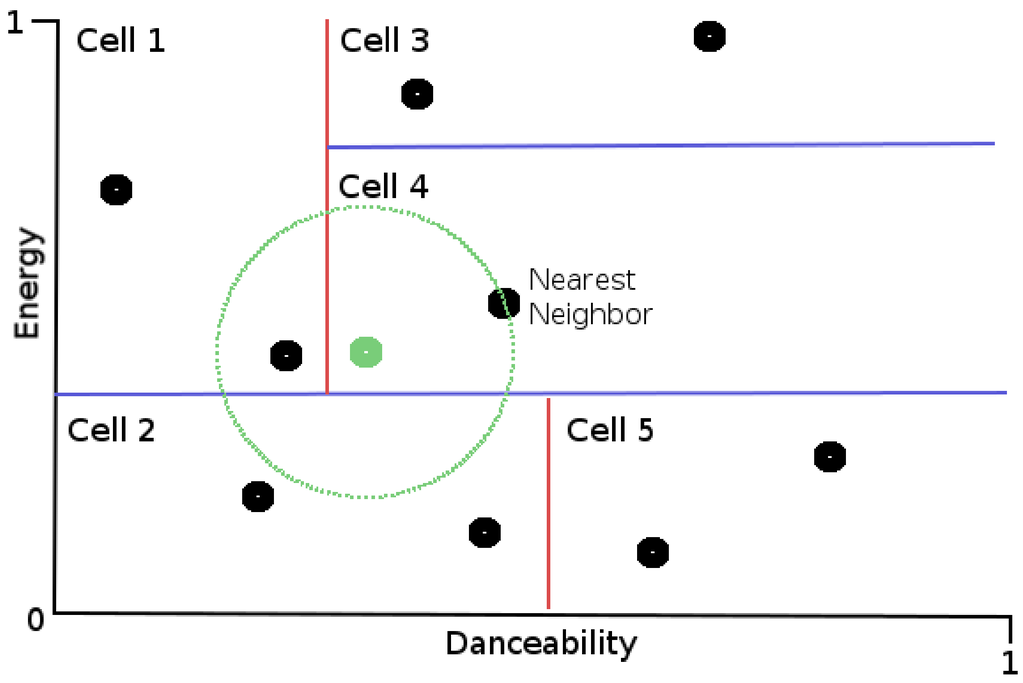
Streaming now accounts for a large portion of revenue in the music industry. Companies like Spotify retain and attract subscribers through music selection, analytics, and overall application experience.

The goal of **Spotifynd** is to provide an interactive music exploration application leveraging data from Spotify's API to help users navigate music while satisfying their acoustic palette.

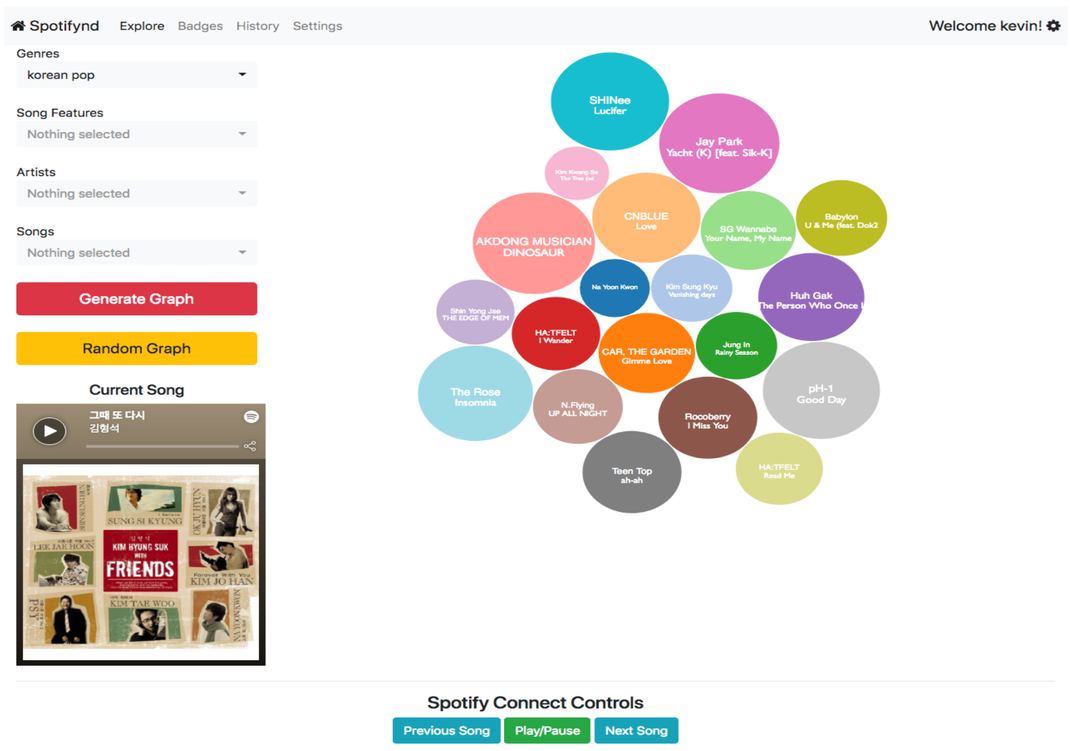
Method/Approach

Spotifynd's unique offerings are three-fold:

- Use of **k-d trees** to efficiently return similar songs recommendations with fewer resources and improved benchmarks.



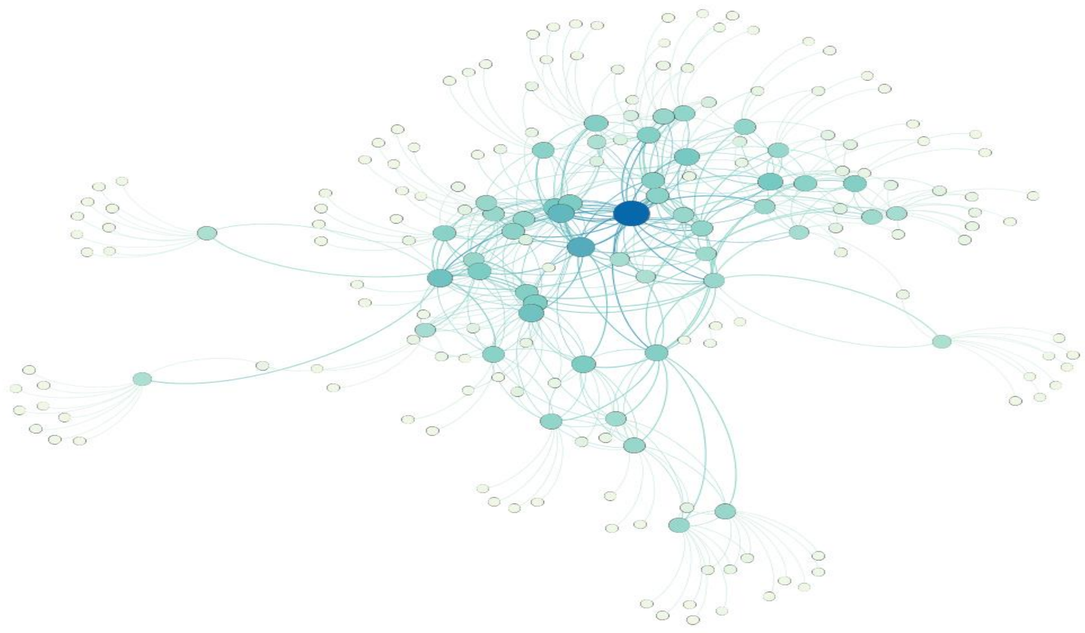
- Use of **data visualization** techniques to enhance the music exploration and recommendation experience over existing tabular applications.



- Improved **user interface** to navigate music recommendations incorporating filters for genre and song features to refine the network results dynamically.

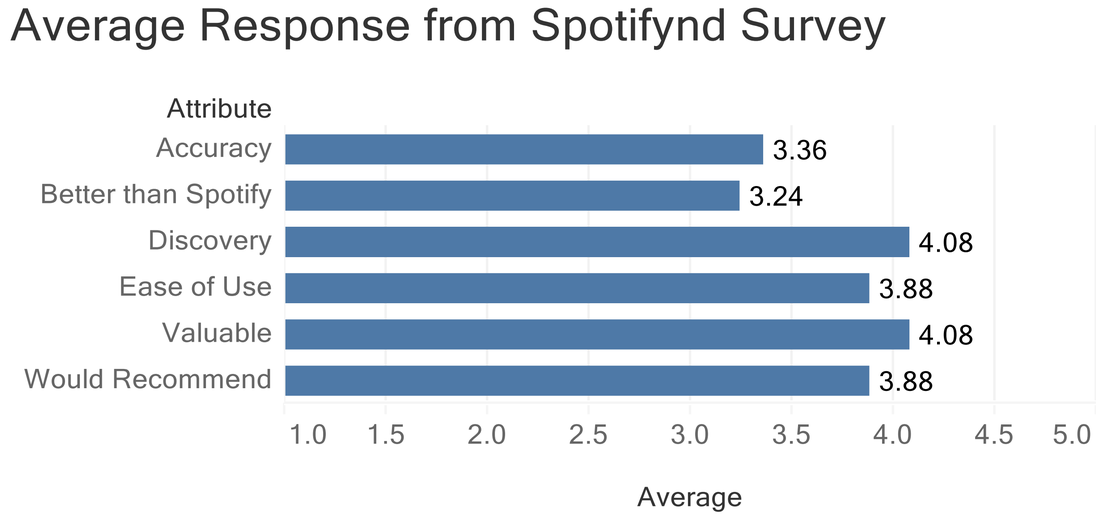
Our Data

We scraped the **Spotify Web API** to compile a list of 117,961 artists and 1,012,325 tracks with their corresponding features.



User Surveys

Since the goal of the application is to improve the user's experience in music exploration, we decided to get user feedback through structured surveys to help evaluate and guide application development.



1-Poor, 3-Average, 5-Excellent

Results

Users indicated they enjoyed the visual exploration experience which was one of the main goals of the project. The application responded to the user's requests well which can be attributed to the effective use of k-d trees to reduce latency.

Some users indicated that the recommendations were not as helpful which may be attributed to our lack of using collaborative filtering. As more users use Spotifynd, we may be able to incorporate user activity to improve recommendations.

Overall, we feel that the application methodology was successful. On average, the user scores in each characteristic were positive and many claimed to even prefer the application over Spotify itself. Given that there are still features to be incorporated, we feel there is a great amount of potential in the methodology that is worth pursuing further.