

Spotify®

Product Teardown: Recommendation

Learn in Public challenge

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Home
Search
Your Library

Create Playlist
Liked Songs



Do I wanna know?
Arctic Monkeys

OVERVIEW

Spotify was founded in 2006 in Stockholm, Sweden, by Daniel Ek and Martin Lorentzon. The two wanted to create a legal digital music platform to respond to the growing challenge of online music piracy in the early 2000s.

Spotify is the world's biggest music streaming platform by the number of subscribers. Users of the service simply need to register to have access to one of the largest collections of music in history, plus podcasts and other audio content.

It operates on a freemium model. Free Spotify access comes with lower sound quality, and advertisements and requires an internet connection. Those who pay for Spotify Premium can listen uninterrupted to high-quality recordings and can download songs for offline listening.

€9.66 billion

Spotify's revenue in 2021

422 million

Users in a month

70 million

Songs on the app

BE A USER

LISTEN TO MUSIC

CREATE PLAYLISTS

SHARE YOUR MUSIC OR PLAYLISTS

JOIN A GROUP SESSION AND LISTEN WITH YOUR FRIENDS

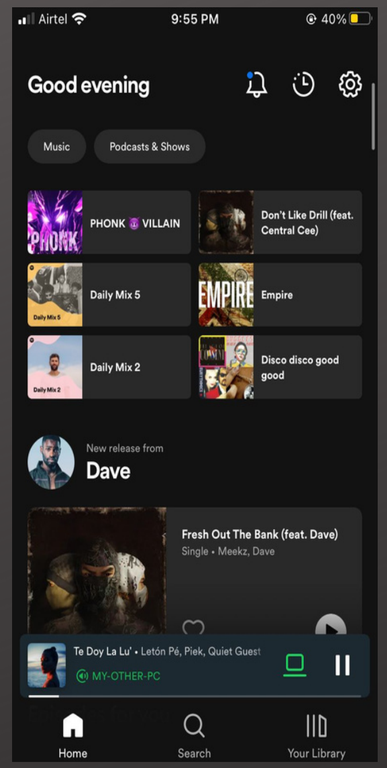
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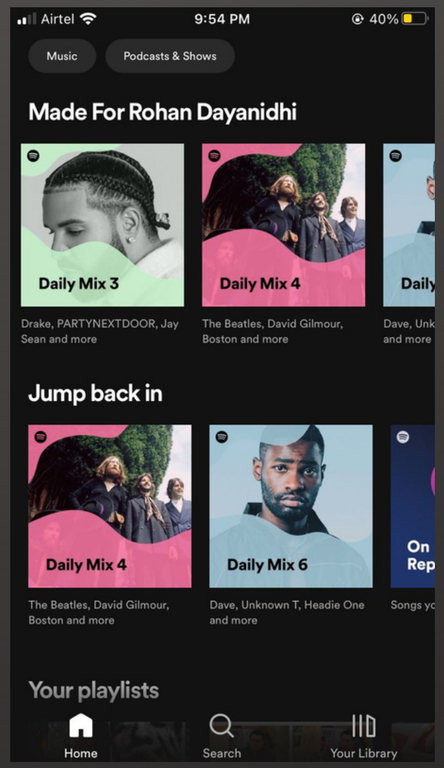
Here Comes the Sun
The Beatles

RECOMMENDATION

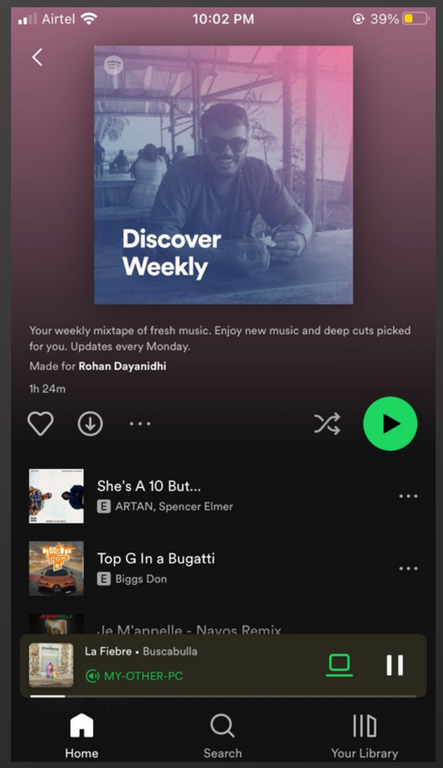
Spotify is a music app that is widely used by people all around the world. The app is a music streaming app but it has some features which made it a unique music streaming platform. The recommendation feature that Spotify has is one of the most successful and widely used services in the app. Spotify analyses the data of its users and recommends songs based on their listening pattern



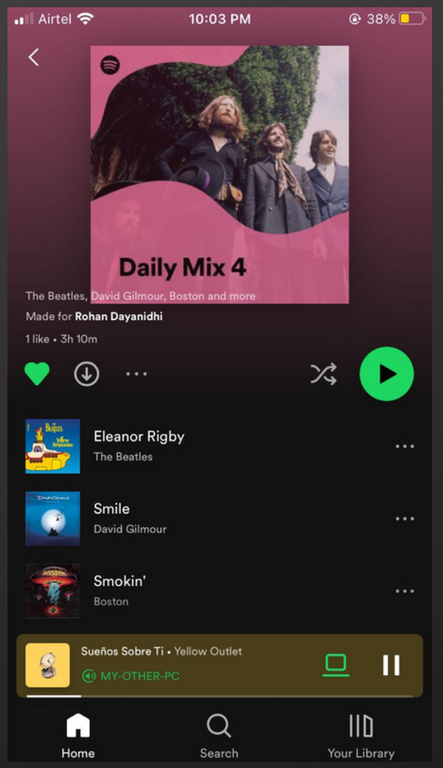
Spotify's home page is a very simple interface which just shows you music and playlists



Among the Playlists you see, there is a section called made for you. Which contains the Playlists made by spotify



Discover weekly is a playlist made by analyzing the data of the music you have listened to over a week.



Daily mix is a cluster of songs that you already like listening to along with a few new songs you may like to listen

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November Rain

Guns N' Roses

RECOMMENDATION

How does it work?

Spotify has an algorithmic system known as BaRT (Bandits for Reccommendation as Treatment)

BaRT

EXPLOIT

Exploit the data of a long term Spotify user

- Listening History
- Songs skipped
- Playlists created
- Social Media Activity
- Location

EXPLORE

Explore the data of a new user

BaRT suggests songs based on the songs you listen to and compares it to the data it has from others and based on how it matches BaRT suggests new music based on the data from the other users. BaRT also has to understand if you like a song.

This is why it registers any song that you listen to for more than 30 seconds as a song that you might like

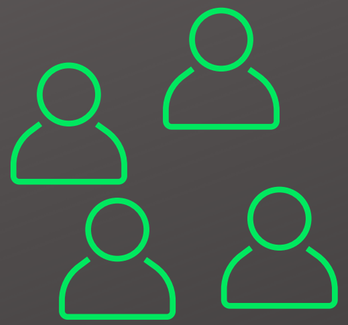
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Jaago
Lifafa

RECOMMENDATION



Listeners

Location
Genre
Gender
Age



New Artist

A New Artist is suggested to a user based on multiple criteria like the ones listed above. Apart from these criteria, Spotify also has an "Audio Analysis Algorithm" which analyses the waveforms, beats, and general notes of a song like what kind of instruments are used for example to put them under certain genres and suggest it to users who listen to that genre. It uses all this data to understand the behavioural pattern of its users

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Instant Crush
Daft Punk, Julian Casablancas

RECOMMENDATION

User 1	User 2	User 3	User 4
LIKED SONGS	LIKED SONGS	LIKED SONGS	LIKED SONGS
Song 1	Song 2	Song 4	Song 2
Song 2	Song 4	Song 3	Song 4
Song 3	Song 1	Song 1	Song 3
RECOMMENDED SONG	RECOMMENDED SONG	RECOMMENDED SONG	RECOMMENDED SONG
Song 4	Song 3	Song 2	Song 1

Spotify's Discover Weekly is thanks to an immense Machine Learning system developed by them. There are many approaches to how it works. The system recognizes the kind of songs you like and with millions of minutes of data of your music history it can predict the genre you enjoy and create a "Taste Map". It uses the taste map and the Playlists you listen to determine which 30 songs that you have not heard on Spotify before will go into the discover weekly playlist. The in-depth analysis of this system talks about how Spotify has a matrix of data where the users are rows and tracks are columns. It plots a graph based on genre and sees the proximity of tracks and uses the proximity of these tracks to suggest new undiscovered songs to its users.

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Started from the bottom now we here
Drake

CONCLUSION

Spotify's recommendation is a great feature in the product which has become one of the Unique Selling Points. This recommendation system is always evolving with new users and more data, the system is only going to get better. This shows us a glimpse into the future of what the music industry and streaming industry could be like with the advancement of Machine Learning and Artificial Intelligence. A lot of other entertainment platforms have the recommend feature but none come close to the accuracy of the one that Spotify uses.

Personally I religiously look forward to Mondays to listen to my discover weekly. Some weeks I listen to a particular type of music in order to influence my discover weekly playlist.

KEY METRICS

Users listening to the recommended playlists

Paid Subscribers

DAU & MAU

COMPETITION

Apple Music

Youtube Music

Gaana

Jio Saavn

Soundcloud

SUGGESTION

I feel that Spotify should give users to save the discover weekly and daily mixes as a separate playlist.