

# Music Recommender System

The streaming platform recommends songs to users based on their listening history

## SYSTEM’S DESCRIPTION

This system analyzes listening history to understand users' musical preferences and updates its song recommendations over time to match these changing preferences.

## BENEFITS

■ (□) benefit (not) enjoyed by

Improved user satisfaction ratings
Increased rate of users renewing their subscriptions
Improved understanding of user preferences for targeted advertising
Building communities based on shared playlists
Improved local music scene with real-time event notifications

Platform users  
Streaming platform  
Institutions and Environment

■	■	□
□	■	□
■	■	■
■	□	■
■	■	■

Minimal Risk

Lim.

High

Unacc.

EU AI Act classification

The system does not threaten the health, safety, or fundamental rights of platform users or other affected groups such as song authors, record labels, and copyright holders.

EU AI Act

### IMPACT ASSESSMENT REPORT

available in multiple formats including Braille



Last update: 3 March 2025

## RISKS

## MITIGATION STRATEGIES

■ (□) risk (not) faced by

### Capability Risks

Limited visibility of songs in local languages and local artists due to fewer user ratings

Adjust the recommendation algorithm with a regional weighting factor to compensate for fewer ratings and improve the visibility of local content in recommendations

Sharing user data with third parties

Allow users to opt out of third-party data sharing and provide clear consent options for targeted advertising

### Human Interaction Risks

Users feeling overwhelmed by aggressive recommendations

Provide user settings to manage recommendation frequency, their level of detail, and notification format

### Systemic Impact

Loss of music diversity due to English-language songs receiving higher user engagement

Add global music picks to homepage recommendations and a discovery button to play curated tracks from diverse non-English singing artists

Platform users  
Streaming platform  
Institutions and Environment

■	■	■
■	■	□
■	□	□
■	■	■

## SYSTEM’S DATA

(□) ■ (not) applicable

### Essential

User listening history logs
User ratings for songs
User location data
Song metadata

Potentially employed for future uses  
Personally identifiable information

■	□
■	□
■	■
■	□
■	■

### Non-essential

User profile information

## PERFORMANCE OF MODELS ON DATA

Data	Model	Version	Metrics
User listening history logs	CF <sup>1</sup> -Log	1.4.3	Precision@10 % of songs played by the user among the top 10 recommended songs ██████████ 88%
User ratings for songs	CF <sup>1</sup> -Log	1.4.3	Precision @10 % of songs highly rated by the user among the top 10 recommended songs ██████████ 92%
	MF <sup>2</sup> -SVD	15.1	RMSE Error between predicted and actual user ratings ██████████ 94%
User location data	LG <sup>3</sup>	1.4.3	Hit rate % of regional song recommendations played by the user ██████████ 87%
Song metadata User profile information	TF-IDF -CS <sup>4</sup>	3.0.5	NDCG @10 % of songs in the top 10 recommendations that best match the profile ██████████ 85%

<sup>1</sup> Collaborative Filtering  
<sup>2</sup> Matrix Factorization with Singular Value Decomposition

<sup>3</sup> Logistic Regression  
<sup>4</sup> Term Frequency-Inverse Document Frequency with Cosine Similarity

## REPORTING RISKS

Helpline: 0XXX XXX XXX  
Reporting portal: report-risk@com  
Mail: XX Main Street,  
XXX-XXX Contry Z

## REGISTERED OFFICE

Name of the streaming company  
XX Main Street,  
XXX-XXX Contry Z

## CERTIFICATES



Media Enrichment and Description Standard for metadata about musical works



GDPR Compliant