

Music Recommender System

Recommends songs to streaming platform users based on their listening history

SYSTEM'S DESCRIPTION

This system analyzes users' listening history to understand their musical preferences and recommend songs they may enjoy. It continuously updates its recommendations to adapt to changing tastes over time.

BENEFITS

■ (□) benefit primarily (not) enjoyed by

	Platform users	Streaming platform	Institutions and Environment
Improved user satisfaction	■	■	□
Increased rate of users renewing their subscriptions	□	■	□
Improved understanding of user preferences for targeted advertising	□	■	□
Building communities based on playlists shared by users or cultural institutions	■	■	■
Improved local music scene with real-time ticket notifications	■	■	■

Platform users
Streaming platform
Institutions and Environment

Minimal Risk | Lim. | High | Unacc.

EU AI Act classification

The system is minimal risk because it does not threaten the health, safety, or fundamental rights of platform users or other affected groups such as copyright holders.

EU AI Act, Article 6(2), Article 6(3), Recital 30

IMPACT ASSESSMENT REPORT

available in multiple formats including Braille



Last update: 5 August 2025

RISKS

□ very low low ■ high high

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

Platform users
Streaming platform
Institutions and Environment



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 unwanted recommendations

Provide user settings to manage recommendation frequency, their level of detail, and notification format
Collect and analyze analytics on user satisfaction by the streaming platform



Systemic Risks

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



COLLECTED DATA

Currently used

User listening history logs



User ratings for songs



User region



Song metadata



Potential future uses

User profile information



Personally identifiable information

PERFORMANCE OF THE SYSTEM'S MODELS ON COLLECTED DATA

Data	Model	Version	Metrics
User listening history logs	CF ¹ -Log	1.4.3	Precision@10 % of songs played by the user among the top 10 recommended songs ██████████ 88%
User ratings for songs	MF ² -SVD	15.1	NRMSE Error between predicted and actual user ratings ██████████ 0.1%
User region	LG ³	1.4.3	Hit rate % of the region's songs that are recommended and played by the user ██████████ 87%
Song metadata	TF-IDF-CS ⁴	3.0.5	Serendipity score Serendipity score of the set of the latest 100 songs played by the user ██████████ 50/100
User profile information	LG ³	1.2.3	Hit rate for new users % of new users with little to no listening history who engage with at least one recommended song ██████████ 85%

¹ Collaborative Filtering

² Matrix Factorization with Singular Value Decomposition

³ Logistic Regression

⁴ 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