

How Control and Transparency for Users Could Improve Artist Fairness in Music Recommender Systems

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We consider the goals and values of several stakeholders in music recommender systems & discover through interviews and questionnaires which goals may be complementary.

Introduction

- Music streaming services incorporate **music recommender systems (MRS)** to serve users personalized recommendations.
- These systems impact several stakeholders (see Figure 1). This impact may be negative, when **biases are introduced or amplified**: artists from certain subgroups may receive less opportunities.
- Engagement with relevant stakeholders is crucial to address these issues effectively. Yet, perspectives and values of stakeholders other than end users have **rarely been directly inquired**.
- This study focuses on **transparency and control for users**, both of which may be key factors for increasing artist fairness within MRS.



Figure 1

Music recommendation as a multi-stakeholder system: users; artists; the platform; and other music industry professionals (e.g., concert bookers, artist management).

RQ1: How do (i) artists & (ii) other music industry professionals view the current level of transparency and control for users on music streaming services? (Study 1 & Study 2)

- In **Study 1**, artists indicate the importance of transparency to artists and users regarding how MRS in streaming services work. They consider the **current transparency towards users to be lacking**.
- Artists also deem the **current level of user control over MRS insufficient**.
- In **Study 2**, participants' views were **more nuanced** (see Table 1).

RQ2: Which role do artists see for user transparency and control in improving artist fairness? (Study 1)

- Communicate fairness goals that were considered when compiling a playlist, and give insight into current playlist statistics.
- This may make **user choices more informed & fairer**, based on users' values.
- Artists also call for more diverse and/or balanced recommendations.

RQ3: What are artists' user interface (UI) suggestions to improve transparency and control? (Study 1)

Some artist ideas for integrating more control for users in the UI of MRS: **filters** (e.g., indicate to have only songs from lesser-known artists in a playlist) and **sliders** (see Figure 2). These can give users agency over their own fairness needs.

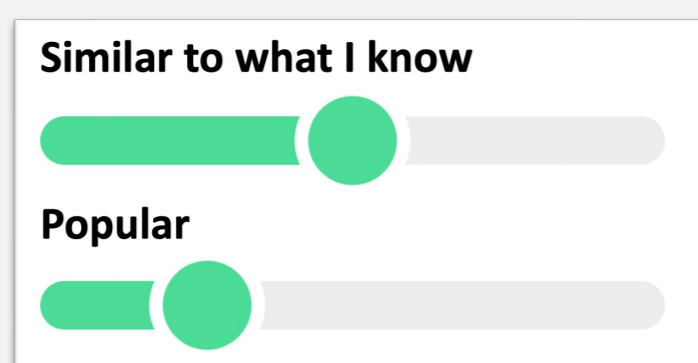


Figure 2

An artist's UI suggestion

Question	Min	Max	Median	Mean	SD
For users of streaming services, I feel like it is clear for which reason(s) specific music is recommended to them.	1	5	3	2.79	1.37
For users of streaming services, I feel like it is important to make it more clear for which reason(s) specific music is recommended to them.	3	5	4	4.38	0.54
For users of streaming services, I am happy with the extent to which they can influence which music is in their general recommendations.	1	5	3	3	1.26
For users of streaming services, I am happy with the extent to which they can influence which music is in their personalized playlists.	1	5	4	3.38	1.19

Table 1
Questionnaire responses (Study 2)
1 = 'Strongly disagree',
5 = 'Strongly agree'

Conclusion

- Both artists and other music industry professionals essentially want the same things (i.e., transparency and control for users) for similar reasons (i.e., better artist fairness and more MRS diversity).
- Key takeaway: **User and artist goals can be complementary**, and involving diverse stakeholders is essential in MIR research.

Future work

- Extend studies with participants from different backgrounds and cultures.
- Implement suggested UI functionalities and evaluate in user studies.

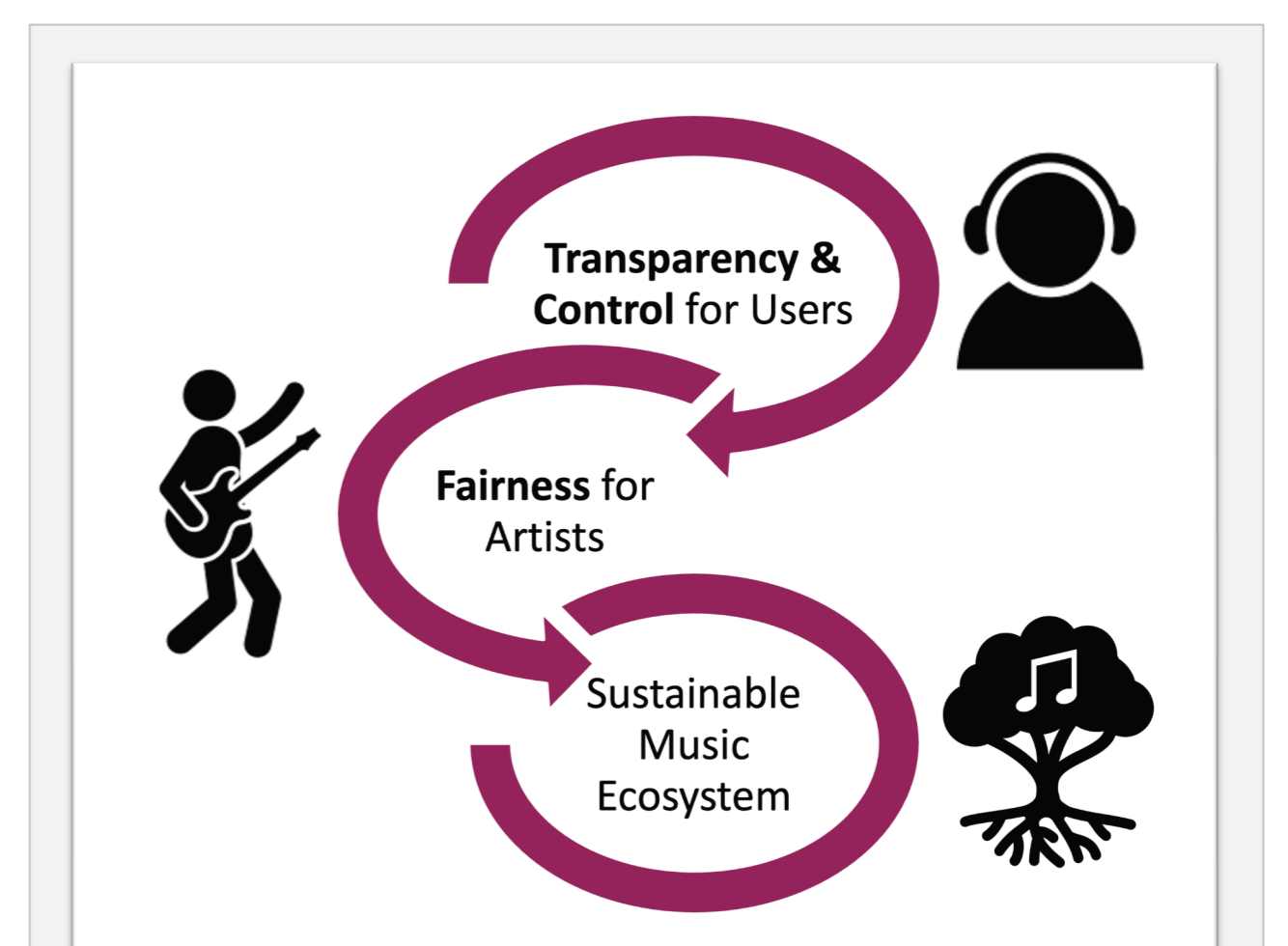


Figure 3

A healthier, more sustainable music ecosystem through user transparency & control



References

- Karlijn Dinnissen & Christine Bauer (2023) Amplifying Artists' Voices: Item Provider Perspectives on Influence and Fairness of Music Streaming Platforms. In *Proceedings of the 31st ACM Conference on User Modeling, Adaptation and Personalization (UMAP '23)*. <https://doi.org/10.1145/3565472.3592960>
- Karlijn Dinnissen, Isabella Saccardi, Marloes Vredenburg & Christine Bauer (2023) Looking at the FAcTs: Exploring Music Industry Professionals' Perspectives on Music Streaming Services and Recommendations. In *2nd International Conference of the ACM Greek SIGCHI Chapter (CHIGREEE '23)*. <https://doi.org/10.1145/3609987.3610011>

