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.

Study 1 [1]

- 14 Dutch music artists
- Semi-structured interviews
- Online & in the Netherlands
- Transparency, control, influencing users’ behavior, fairness, diversity, and more

Study 2 [2]

- 35 industry professionals
- Questionnaires
- Eurosonic Noorderslag (music industry conference)
- Same as Study 1

RQ1: 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.

RQ2: 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.

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.

Table 1 Questionnaire responses (Study 2)

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

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.

References


Figure 1: Music recommendation as a multi-stakeholder system: users; artists; the platform; and other music industry professionals (e.g., concert bookers, artist management).

Figure 2: An artist’s UI suggestion

Figure 3: A healthier, more sustainable music ecosystem through user transparency & control.

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November 2023