Church Music Acceptability Prediction Model

In the SDA Church Community, many individual churches can have conflicts over what kinds of music should/ shouldn't be used or featured during weekly worship services on Saturday. This has caused a split of opinion at an SDA church in Eindhoven specifically. I created a prediction model that attempts to predict how 'acceptable' a song would be for use in church based on the types of songs that have been acceptable in the past.

This prediction model could be helpful since it could assist members of the Music Department with choosing the right kinds of song for their congregation. Explaining how the model decides a song's acceptability could also encourage further discussion about the topic of music in church, educate members about

musical features that compose a song, and the unspoken biases that determine whether music is 'acceptable' in church or not.

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Context of use: Education
Level of education: Bachelor

Technology Impact Cycle Tool

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Impact on society

What impact is expected from your technology?

This category is only partial filled.

What is exactly the problem? Is it really a problem? Are you sure?

There are differing opinions over what music is acceptable for use in Seventh-Day Adventist (SDA) Churches. There are many reasons for these differences, but in the case of Eindhoven's SDA Church, these differences have helped lead to a split in the congregation, where groups of members don't attend or participate in church services and activities.
Splits like this could weaken the church's message and hinder it's ability to positively impact its local community.

Are you sure that this technology is solving the RIGHT problem?

This question has not been answered yet.

How is this technology going to solve the problem?

This question has not been answered yet.

What negative effects do you expect from this technology?

This question has not been answered yet.

In what way is this technology contributing to a world you want to live in?

This question has not been answered yet.

Now that you have thought hard about the impact of this technology on society (by filling out the questions above), what improvements would you like to make to the technology? List them below.

This question has not been answered yet.

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Hateful and criminal actors
What can bad actors do with your technology?

This category is only partial filled.

In which way can the technology be used to break the law or avoid the consequences of breaking the law?
The model is trained using musical feature metadata from Spotify and song lyrics scraped from Genius. While Spotify allows their data to be used for analysis under fair use, Genius lyrics are only allowed for personal use. If lyrics are also used to train the prediction model, then use of Genius' lyric database could break copyright laws. In the future, another source for lyrics should be found if this is implemented.

Can fakers, thieves or scammers abuse the technology?
This question has not been answered yet.

Can the technology be used against certain (ethnic) groups or (social) classes?
This question has not been answered yet.

In which way can bad actors use this technology to pit certain groups against each other? These groups can be, but are not constrained to, ethnic, social, political or religious groups.
This question has not been answered yet.

How could bad actors use this technology to subvert or attack the truth?
This question has not been answered yet.

Now that you have thought hard about how bad actors can impact this technology, what improvements would you like to make? List them below.
This question has not been answered yet.

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Privacy

Are you considering the privacy & personal data of the users of your technology?

This category is only partial filled.

Does the technology register personal data? If yes, what personal data?

No. The musical feature & lyrics data used to train the model is publicly available. There is data on the artist for each song in the dataset, but that is also publicly available information.

While acceptability scores were sourced from individual members of the church community, the means by which these scores were collected did not feature anything that would collect personal data.

Do you think the technology invades the privacy of the stakeholders? If yes, in what way?

This question has not been answered yet.

Is the technology is compliant with prevailing privacy and data protection law? Can you indicate why?

This question has not been answered yet.

Does the technology mitigate privacy and data protection risks/ concerns (privacy by design)? Please indicate how.

This question has not been answered yet.

In which way can you imagine a future impact of the collection of personal data?

This question has not been answered yet.

Now that you have thought hard about privacy and data protection, what improvements would you like to make? List them below.

This question has not been answered yet.

Technology Impact Cycle Tool

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Human values
How does the technology affect your human values?

This category is only partial filled.

How is the identity of the (intended) users affected by the technology?
One of the goals of creating the model is to highlight that, while the church doesn't have specific requirements for acceptable music in church, biases are still unconsciously used to decide between 'acceptable' and 'unacceptable' church music. Successfully creating a model that predicts acceptability would make it clear that this bias does indeed exist. This realization, in theory, could shift how the conversation of music in church is approached and change the perspective of many church members on this topic.

How does the technology influence the users' autonomy?
This question has not been answered yet.

What is the effect of the technology on the health and/or well-being of users?
This question has not been answered yet.

Now that you have thought hard about the impact of your technology on human values, what improvements would you like to make to the technology? List them below.
This question has not been answered yet.

Technology Impact Cycle Tool

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Stakeholders
Have you considered all stakeholders?

This category is only partial filled.

Who are the main users/targetgroups/stakeholders for this technology? Think about the intended context by answering these questions.

Name of the stakeholder
Leader of Eindhoven SDA Church Music Department

How is this stakeholder affected?
-

Did you consult the stakeholder?
No

Are you going to take this stakeholder into account?
No

Name of the stakeholder
Clergy (Pastor, Elders) of Eindhoven SDA Church

How is this stakeholder affected?
-

Did you consult the stakeholder?
No

Are you going to take this stakeholder into account?
No

Name of the stakeholder
Regular members of Eindhoven SDA Church

How is this stakeholder affected?
-

Did you consult the stakeholder?
No

Are you going to take this stakeholder into account?
No

Did you consider all stakeholders, even the ones that might not be a user or target group, but still might be of interest?
-

Now that you have thought hard about all stakeholders, what improvements would you like to make? List them below.
This question has not been answered yet.

Technology Impact Cycle Tool

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Data

Is data in your technology properly used?

This category is only partial filled.

Are you familiar with the fundamental shortcomings and pitfalls of data and do you take this sufficiently into account in the technology?

Data can only go so far in fully representing the biases presented by the church community over music usage. The concept of condensing the church's opinion into a numerical variable is in and of itself reductive to the complex factors influencing just one person's opinion. The data set being used simplifies reality in that sense.

Shortcomings like these are taken into account when developing the conclusion of this research and when creating the final product.

How does the technology organize continuous improvement when it comes to the use of data?

This question has not been answered yet.

How will the technology keep the insights that it identifies with data sustainable over time?

This question has not been answered yet.

In what way do you consider the fact that data is collected from the users?

This question has not been answered yet.

Now that you have thought hard about the impact of data on this technology, what improvements would you like to make? List them below.

This question has not been answered yet.

Inclusivity
Is your technology fair for everyone?

This category is only partial filled.

Will everyone have access to the technology?
This question has not been answered yet.

Does this technology have a built-in bias?
Bias may likely be built into the model due to both the nature of the situation being modelled and the methods used by the researcher to build the dataset. The data on acceptability was collected by the researcher, but the songs chosen to collect this data on was already selected with a certain level of bias from the researcher. Many songs selected were songs likely to have a higher acceptability score, chosen due to the researcher's experience with songs used in the congregation in the past.

Does this technology make automatic decisions and how do you account for them?
This question has not been answered yet.

Is everyone benefitting from the technology or only a a small group? Do you see this as a problem? Why/why not?
This question has not been answered yet.

Does the team that creates the technology represent the diversity of our society?
This question has not been answered yet.

Now that you have thought hard about the inclusivity of the technology, what improvements would you like to make? List them below.
This question has not been answered yet.

Transparency

Are you transparent about how your technology works?

This category has not been filled yet.

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Sustainability

Is your technology environmentally sustainable?

This category has not been filled yet.

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Future
Did you consider future impact?

This category has not been filled yet.