Thesis Project Portfolio

Whiplash

(Technical Report)

Music Recommendation Software's Impact on New Artists

(STS Research Paper)

An Undergraduate Thesis

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Sociotechnical Synthesis

Recommendation systems are a part of nearly everything that we do on the internet daily. Whether talking about online shopping, social media, movie streaming or travel websites. Even though these systems are such a large presence in our lives it is rare that people will give them a second thought. To discover the real impact of these systems, I chose to investigate the impact that the recommendation systems embedded in popular music streaming services have had. Specifically, on new artists in the music industry.

To address this topic the technical project for this report is a proof of concept of how digital signal processing or DSP techniques can be used to categorize songs. In this project, use a microcontroller using DSP to analyze the beat of a song and then control a drumstick to play along with the song. Current research is being done to combine these techniques with recommendation technology to enhance the effectiveness of these systems.

This problem is extremely important today because these systems can influence the way that we make decisions, whether that be music and movies or even political bias. The structure that I will be making my argument around in this thesis is Actor-Network theory. The reason for this is that I can construct an actor-network model for before and after a key event in music recommendation's history and analyze how the impact on new artists has changed. To gather information for this topic I relied on academic journal papers that explain how these systems work as well as music listening data from the period before and after the introduction of music recommendation systems.

The expected result from the research that I conduct is that the introduction of music recommendation systems has had an overall net positive impact on smaller artists. It is likely that

issues will remain with respect to biases for certain types of music or artists. Together my STS research paper and capstone project work to show the potential issues with modern music recommendation systems as well as highlight areas of research that have the potential to reduce the issues of today.