

Secondary Research

Addressable market size:

As a tool sold to an enterprise, our application would appeal to the same market demographics as the company we sell our innovation to. For example, if adopted by Spotify our product would impact their 217 million monthly users.

Statistic taken from this article: <https://venturebeat.com/2019/04/29/spotify-passes-100-million-premium-users-as-revenue-climbs-33-yoy/>

Validation of user need:

Many companies and research groups have published various papers and reports on deciphering unique actors in audio through isolation, known instruments, and their classification. This continual investment in research by well-renowned institutions shows a strong financial and intellectual interest in the subject. We expect these parties, and by extension their resources, to be interested in our product as it contributes to and expands on the topics they have invested into.

Relevant research in the field:

The ability to analyze audio begins with the transformation of pure analog sound to a digital representation that can be dissected by a computer. Techniques to do so are discussed here: <https://arxiv.org/pdf/1804.03160.pdf>.

Once a data from audio is created, it can then be evaluated by programs looking for similar patterns in sound. When inspecting frequency, these patterns can be used to identify unique instruments as shown in this paper <https://arxiv.org/pdf/1705.04971.pdf>.

After instruments can be identified individually they must then be recognizable in an ensemble.

The process for identifying unique actors in an audio file has been studied here

<https://docs.google.com/document/d/1leVnL66ahwdShc2iij1WGtcNPE69WeGAcKykj4RV4uY/edit>.

Our project will require extensive background research on sound conversion and machine learning which we will base on the research papers above. We plan to discuss our potential product with a Sony representative to further narrow the scope of topics we must learn to deliver a desirable product. Over the course of our primary research interview we aim to identify and isolate desired features for our product that will guide our research and development.