WonderBeats Phase 1: Project Overview

***404: Team Not Found* Members:**

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Problem Statement (Alexandra Swift)

Currently, it is difficult for sound editors to easily search for specific details of a song online, such as the beats per minute(BPM) and the pitch the song was written in. In order to address this issue, our database will make this information easily available to the sound editors. It will include these features as a part of the song description so editors can use that feature to search for songs that match their request. The accuracy of the data will come from the artists uploading their songs themselves.

There are a few reasons that a database will be more useful than an excel sheet. The first reason is that it ensures that all admin, sound editors, and creators have access to the same data without any redundant or erroneous entries. Next, the songs data, genres data, and creators data all have relationships with each other, so a database can better encapsulate this relationship and allow for a more indepth search. Lastly, every sound editor will need the data for a different reason, so a database allows each editor to have a different view of the data depending on what features of a song they need.

Target User (Kayla Tucker)

The database can serve a wide range of users, including: Sound Editors, Musicians, Producers, DJs, Music Streaming Services, and Musicologists and Researchers.

Managing such a database would require a team with expertise in database management, music analysis, and data quality control. The responsibilities of the management team could include: Data Entry and Validation, Maintenance, Security, User Support, Quality Control, Legal, Compliance, and Scaling.

A real-world example of a music database that serves a similar purpose is The Echo Nest, which was a music intelligence platform acquired by Spotify. The Echo Nest collected and analyzed vast amounts of music data, including tempo, key, mood, and more. It powered various features on Spotify, such as playlist recommendations and radio stations, by providing rich music metadata. It was managed by a team of data scientists, musicologists, and software engineers.

Additionally, services like Beatport offer extensive music metadata, including BPM, key, and genre information, to DJs and music enthusiasts. These examples demonstrate how music databases can be valuable in the music industry and require dedicated teams to maintain and ensure data accuracy.

Relations (Cristina Kovacs)

Listener

Name	Account_ID	Password

Creator

Name	Account_ID	Password

Genre

Name	Description

Song

Title	Creator	BPM	Pitch	Genre

Admin

Name	Account_ID	Password

Web Interface (Ezrela Amoako)

The interface for WonderBeats will have multiple forms that each have their own access barriers. The majority of users will be on the general song form which contains every song currently uploaded to WonderBeats. This form will be accessible to everyone. There are also personalized forms built off of the song information that users choose to save to their own accounts. These are only accessible by the specific user who created the account. Users who create accounts can also access a form that lists all of their currently uploaded songs.

The user can change the appearance of the general form through sorting or filtering the songs by name, bpm, artist etc. The users can pose queries to find specific song names, song pitch, or bpm as well. On this page, users can search and access the information of all songs in the database, but they cannot save or add songs without having an account.

Which leads us to our second form, the saved songs form. At the login page, users will need to provide a username and password to enter their account. Once accessed, they can view the list of information of every song they have saved. They will be able to sort and filter through this information the same way as described for the general form. They can also add or remove songs as needed

Users with accounts also have access to every song they have uploaded into the database in its own separate, organized form. There they can sort, filter, add, edit, and remove songs to their liking. When a user wants to add a song, they must fill out a form that includes all of the song's information. Once a song is successfully uploaded, its information will be seen by all users accessing the database and be available for users with accounts to save. When a user removes one of their uploaded songs, it will also be removed from the general and any saved song forms it was in.

Data (Alexandra Swift)

For the initial sets of data, the editor and creator tables will be empty since there are no accounts created. The admin table will be filled in with our own data composed of preapproved admin users. The songs table will come pre filled in using the help of external resources such as Spotify and Apple Music to add a base set of songs in the system. Lastly, the genre table will be derived from the songs information table to accurately reflect the genres available. After launching the system, our data will be created on its own. The editors and creators will be

added once to their respective tables when they initially create an account. The admin table will be updated periodically and will get its information from other authorized admin. The songs table will be updated when creators fill in and add their songs information to the system. Lastly, the genre table will be updated once a new unique genre is added to the songs table.