Product Backlog - Group 27
Put Me On

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Problem Statement:
Spotify is the world's most popular music streaming service, controlling 30.5% of the market share with their 226 million subscribers, in a world where 78% of people prefer to use streaming services to listen to music[1]. Yet despite their position as the industry leader in music streaming, Spotify lacks basic functionality that even casual music fans would appreciate, such as a more robust social experience and precise data on listening activity. We intend to build such a platform for our users, providing them with a data dashboard of their listening data (most listened to artists, albums, songs, etc.) and a more extensive application of social media features to Spotify and music streaming (comparing data with friends, creating shared playlists, see current listening activity, etc.).

Background Information:
Audience:
The primary audience for this software is anyone in the world who listens to music and is interested in learning more about their listening data as well as connecting with friends regarding music. The goal is for people to be more aware about their listening habits and to have the ability for them to compare these with their friends.

Similar Platforms:
There are competitors on the market, such as Airbuds or Stats for Spotify that are mobile applications that do a similar thing. These applications have functionalities such as the ability to track listening stats over time, and view top artists over a period of time.

Limitations:
The vast majority of these alternatives choose to specialize either in social or data exploration features, so we hope to provide a meaningful alternative to these platforms by combining both features in a synergistic manner.

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[1] Music Streaming Service Stats

Requirements:

Functional Requirements: [44]

A. User Accounts: [15]

1. As a user, I want to be able to create an account.
2. As a user, I want to be able to create an account using my Gmail.
3. As a user, I want to be able to change my username.
4. As a user, I want to be able to change my password.
5. As a user, I want to be able to add a profile picture.
6. As a user, I want to be able to change my profile picture
7. As a user, I want to be able to change my bio.
8. As a user, I want to be able to set my top 3 songs.
9. As a user, I want to be able to set my top 3 artists.
10. As a user, I want to be able to set my top 3 genres.
11. As a user, I want to be able to set my privacy settings
12. As a user, I want to be able to change my privacy settings
13. As a user, I want to be able to enable and disable 2 step verification
14. As a user I want to be able to have remember password on my device
15. As a user, I want to be able to link my Spotify account.

B. Data Exploration: [9]

1. As a user, I want to be able to view my most listened to songs on Spotify.
2. As a user, I want to be able to view my most listened to artists on Spotify.
3. As a user, I want to be able to view my most listened to genres on Spotify.
4. As a user, I want to be able to see my music listening time
5. As a user, I want to be able to see my friends' music listening time
6. As a user, I want to be able to compare my listening time against my friends'
7. As a user, I want to receive written reports that summarize my listening activity over a period of time.
8. As a user, I want to be able to see visualizations of changes in my listening activity over time.
9. As a user, I want to be able to upload my extensive listening history from Spotify for deeper analysis.

C. Messaging Features: [4]

1. As a user, I want to be able to send messages to my friends.
2. As a user, I want to be able to receive messages from my friends.
3. As a user, I want to be able to make group chats with multiple friends.
4. As a user, I want to receive notifications when I receive a message

D. Social Features: [13]

1. As a user, I would like to have a shared leaderboard with my friends to compare various listening statistics.
2. As a user, I want to be able to add friends
3. As a user, I want to be able to remove friends
4. As a user, I want to able to accept friend requests
5. As a user, I want to be able to see what my friends are listening to recently in a social media type feed.
6. As a user, I want to be able to create playlists.
7. As a user, I want to be able to share my playlists with friends.
8. As a user, I want to be able to create collaborative playlists with friends.
9. As a user, I want to be able to react to my friends' listening activity
10. As a user, I want to be able to comment on my friends' listening activity
11. As a user, I want to be able to participate in games or challenges involving listening behavior with my friends.
12. As a user, I want to see how my listening activity compares with others around the world.
13. As a user, I want to be able to share my listening statistics to other social media platforms like Instagram, Snapchat, or Twitter.

E. Personalized Features: [3]

1. As a user, I would like to have curated playlists based on my listening behavior.
2. As a user, I want to receive suggestions for new artists or songs to listen to based on my past listening history.
3. As a user, I want to be able to see recommended profiles that have the most similar music tastes to mine.

Non-Functional Requirements:

Architecture and Performance

We will be developing a separate front and back end for our web application. This will ensure that the data is handled correctly and there is less than 500ms lag in querying the database. We will be using Firebase to store user information as well as credentials and other information regarding friends and profiles. This is a widely used database software used by many different software solutions due to its robustness. Additionally, we will be leveraging the Spotify API to gather listening activity information and will be utilizing NodeJS to make API requests when needed. The front end will be handled by React, as this integrates well with NodeJS and provides many excellent front end features.

Security

We will be using Firebase to handle all user data, including profile information, emails, and login credentials. Firebase has a free tier that allows for 50,000 user authentications a month, as well as around 1 GiB worth of storage per month (around 20 million messages). Firebase is known for storing user information securely and many applications that we use on a daily basis use Firebase. Along with this, we will ensure that users can only view their login information, and listening information of other users will be kept private if a user chooses to do so. Firebase has built in authentication with existing applications such as Instagram, Email, Facebook, Twitter which will ensure that external logins are handled securely as well.

Usability

We will ensure that the user interface is friendly to interact with and usable for all different types of people and a variety of screen sizes. As we are building a web application, we will need to account for mobile screen sizes as well. Using React as a front end, we will have access to many key libraries that make navigation between pages seamless and quick. We will also make sure to use fonts and colors that are pleasing to the eye and easy to read, ensuring that the overall user experience is positive with our web application.

Deployment

We can deploy both the frontend and backend of our applications on AWS. AWS Amplify will be used for the frontend, as this has a free tier that we can use. For the back end, we can utilize AWS hosting services as they have a free tier with a limited number of API well above the amount we will likely use.