e

Team 24 Backlog

Team Members:

Samuel Tarr, Alan Zeng, Kichul Kang, Thomas Wiegand, Tiger Lee, Jason Paik

Problem Statement:

With the rise in subscription-based business models in the modern world, consumers are finding it increasingly difficult to get all of their needs in one place. Although our group does not have the scope to alleviate issues in every field, we know we can make a difference in one that matters to us most: music. Since there are many different music tastes and a vast number of existing tracks, we've decided to combine two of the largest music streaming platforms into one for streamlined music access. The web app will also contain other quality of life features, such as group listening sessions and bookmarkable skips for parts of songs you don't wish to hear. We also plan on implementing an aesthetically appealing music visualizer.

Background Info:

Audience:

Although there are many music streaming services, many of these services provide different song selections. People usually opt to only one service and miss out on the music of the other. Because SoundCloud offers unofficial music for free people can use both Spotify and SoundCloud to get access to both. Our audience is people who wish to have access to both SoundCloud and Spotify music selections in a unified platform in the domain of music. Additionally, the target demographic includes users connecting over the internet to virtually play games and hangout who are looking for a platform allowing group listening to connect people across the Internet.

Similar Platforms:

Although many music-based platforms already exist, they are lacking in key features which we feel are significant enough to warrant the creation of Pineapple Music. The most significant of these is the inability to play music from both Spotify and SoundCloud. Many users are annoyed by the requirement of having two separate music apps, which do not communicate with each other, open at the same time. This disrupts a smooth listening experience and, arguably more importantly, prevents users who have access to only one platform or the other from discovering thousands of new songs.

Limitations:

The main limitation of these music streaming services is that many artists are licensed to either Spotify or Soundcloud, restricting the access to many songs across both platforms. Further, Soundcloud has a massive pool of unofficial song releases, remixes, and set recordings that Spotify does not have. Our group wants to create a web application that combines the listening experiences of Spotify and Soundcloud in order to assimilate the both shared and exclusive pool of music while providing new quality of life features, such as group listening, bookmarkable skips, and a music visualizer. Another important feature competitors are missing is group listening support. With the rise in virtual gaming and hangouts, a need for simultaneous large group listening sessions has been created. However, many competitors lack in this area, opening up an opportunity for Pineapple Music to gather a user base.

Functional Requirements:

1. As a user, I would like to be able to register an account at Pineapple music.
2. As a user, I would like to be able to logout of my account for Pineapple music.
3. As a user, I would like to be able to stay logged in after leaving the page.
4. As a user, I would like to be able to delete my account for Pineapple music.
5. As a user, I would like to be able to add a profile picture.
6. As a user, I would like to be able to change my profile picture.
7. As a user, I would like to be able to use Pineapple music by logging in through my Spotify account.
8. As a user, I would like to be able to change which Spotify account I use.
9. As a user, I would like to be able to use Pineapple music by logging in through my SoundCloud account.
10. As a user, I would like to be able to change which SoundCloud account I use.
11. As a user, I would like to be able to reset my password if I forget my login information.
12. As a user, I would like to be able to access Spotify tracks through Pineapple music.
13. As a user, I would like to be able to access SoundCloud tracks through Pineapple music.
14. As a user, I would like to be taken to the home menu when I access the site.
15. As a user, I would like to be able to navigate to a playlists page from the home menu.

16. As a user, I would like to be able to navigate to an account management page from the home menu.
17. As a user, I would like to be able to access a search page from the home menu.
18. As a user, I would like to be able to search through both SoundCloud and Spotfy's music selection simultaneously. (If time allows)
19. As a user, I would like to have the song title be displayed on search results.
20. As a user, I would like to have the song cover be displayed on search results.
21. As a user, I would like to be able to select a song from the search results to add to a playlist.
22. As a user, I would like to be able to select which playlist to add a song to.
23. As a user, I would like to be able to play a song from the search results directly.
24. As a user, I would like to be able to create a Pineapple Music playlist.
25. As a user, I would like to be able to create multiple playlists.
26. As a user, I would like to be able to see the current song being played.
27. As a user, I would like to be able to access a page where song specific information is displayed.
28. As a user, I would like to be able to see whether the currently playing song is from Spotify or SoundCloud.
29. As a user, I would like to be able to see all the songs in a playlist in a scrollable menu.
30. As a user, I would like to be able to reorder the songs in my playlist.
31. As a user, I would like to be able to delete an entire playlist.
32. As a user, I would like to be able to name a playlist.
33. As a user, I would like to be able to add a playlist photo. (If time allows)
34. As a user, I would like to be able to add Spotify music to my Pineapple Music playlist.
35. As a user, I would like to be able to add SoundCloud music to my Pineapple Music playlist.
36. As a user, I would like to be able to add my Spotify playlists to Pineapple Music.
37. As a user, I would like to be able to add my SoundCloud playlists to Pineapple Music.
38. As a user, I would like to be able to merge Spotify and SoundCloud playlists together. (If time allows)
39. As a user, I would like to be able to remove songs from my playlist.
40. As a user, I would like to be able to queue songs from my playlists.
41. As a user, I would like to be able to have music playing in the background while I continue to use the website.
42. As a user I would like to be able to switch between SoundCloud music and Spotify music seamlessly.
43. As a user, I would like to be able to play a song in my playlist and the rest of the playlist be queued in order.
44. As a user, I would like to be able to start a new playlist queue when playing a new playlist.

45. As a user, I would like to be able to shuffle songs from my playlist. (If time allows)
46. As a user, I would like to be able to repeat songs from my playlist. (If time allows)
47. As a user, I would like to be able to manually queue a song to be played next. (If time allows)
48. As a user, I would like to be able to skip the current song that is playing.
49. As a user, I would like to be able to go back to the previous song that is playing.
50. As a user, I would like to be able to skip to any part of the song. (If time allows)
51. As a user, I would like to be able to pause my Pineapple Music playlist.
52. As a user, I would like to be able to resume my Pineapple Music playlist.
53. As a user, I would like for my playlists to be saved between instances.
54. As a user, I would like to be able to place a bookmark at any point in a song in order to skip the song after that point when streaming the song.
55. As a user, I would like to be able to edit a bookmark for a song.
56. As a user, I would like to be able to delete a bookmark for a song.
57. As a user, I would like bookmarks to be saved between instances.
58. As a user, I would like to be able to view if a song in my playlist has a bookmark set.
59. As a user, I would like to be able to create a group session room.
60. As a user, I would like to be able to decide the group session room code.
61. As a user, I would like to be able to join a group session with a room code.
62. As a user, I would like to be able to leave a group session.
63. As a user, I would like to be able to enqueue a playlist in a group session.
64. As a user, I would like to be able to enqueue a single song to a group session.
65. As a user, I would like to be able to skip songs in the queue.
66. As a user, I would like to call a vote to skip a song in the group session queue.
67. As a user, I would like to be able to pause the group playlist.
68. As a user, I would like to be able to resume the group playlist.
69. As a user, I would like to be able to react in real time while in a group session.
70. As a user, I would like my reaction to show up to the whole group.
71. As a user, I would like my playlists to dynamically suggest songs according to the overall mood of the songs contained. (If time allows)
72. As a user, I would like to be able to view a music visualizer for the current playing song.
73. As a user, I would like to be able to view a music visualizer that responds to the beat of a song.
74. As a user, I would like to be able to view a music visualizer that responds with color to the dominating frequency of the music.
75. As a user, I would like to be able to manage the music visualizer color settings.
76. As a user, I would like to be able to manage the music visualizer animation settings.

Non-Functional Requirements:

Architecture:

Our application will support a separation of frontend and backend to facilitate smooth application development. This will limit the occurrences of compatibility issues.

The backend will be running 24 hours per day, delivering at least 5gb of data to the users. Up to 100 simultaneous connections will be allowed, which will be updated in the future should we choose to do so.

The development of frontend will be done in ReactJS, pulling necessary data from the backend and providing intuitive user experience to the users.

Security:

Our application will support user authentication through the firebase framework. By authenticating the users, we will be able to fully restrict read/write access to the Firebase data. We will also secure against common exploits such as SQL injection through the laravel framework (if time allows).

Usability:

Due to the large number of features, we will approach our interface with a minimalistic view focused on clean visual appeal that will be structured similarly to other music streaming platforms. This serves the purpose of not overwhelming new users who haven't used streaming apps before, as well as giving a familiar feel to those who actually are coming from other apps. There will not be separate tabs for each individual feature. Rather, buttons for creating cooperative listening groups, opening the music visualizer, and other features will reside on the same page as music selection/playing to minimize menu clutter.

Hosting:

Our backend can be hosted at a low cost for both the testing and deployment on Firebase. Our frontend can be hosted on Github Pages for free of cost.