

CS4530 Final Project: “Spotify Jukebox”

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Our Feature: “Spotify Jukebox”

Covey.Town is a social platform where users can interact with each other in a variety of ways, such as on discussion tables or through playing games. That being said, users lack the ability to incorporate music into their experience. Our project aims to fix this issue by allowing users to connect to their Spotify accounts and listen to music together. The Spotify Jukebox allows multiple users to sign-in to their Spotify premium account, search for music, create a queue together, and play songs at the same time across respective devices. Additionally, users can view analytic data for searched songs, see album covers, save and retrieve songs from previous sessions, comment on songs in the queue, and like/dislike songs in the queue to determine playback order.

Demo Site and Source Repository

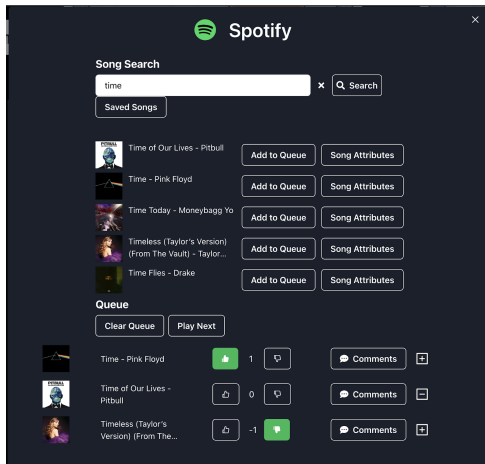
The demo of our feature is available at <https://Spotifyfrontend.onrender.com/> and the source repository can be found at <https://github.com/neu-cs4530/fall23-team-project-group-210>. In order for our feature to work, you must have a Spotify premium account and send the associated email and your full name to one of our members (delaney.m@northeastern.edu) because the Spotify API requires users to be explicitly registered. With that in order, you can sign in on the town selection page and choose a device with Spotify open to play music (does not need to be the device accessing Covey.Town).

Technology Stack and Design

Starting from the base Covey.Town, we implemented our feature following a similar design pattern to other interactables. Once a user signs in during town selection and comes within close proximity with a Spotify Jukebox, they can interact with the feature. The SpotifyHubArea is the main frontend of our project using React/Chakra components. This module is responsible for the appropriate rendering of our UI given the current state provided by the backend. This module mediates between the user and the SpotifyAreaController. The SpotifyAreaController controls the interaction between our feature and the Spotify API. The SpotifyAreaController is also responsible for emitting update commands to the backend module SpotifyArea using the event emitting framework already implemented in Covey.Town. In turn, the SpotifyArea emits updates back to users’ SpotifyAreaControllers to maintain the same relevant data between different users (queue, comments, likes, playback, etc.). The SpotifyArea also works with Google Firebase to preserve user song data.

Future Work

We believe we have successfully implemented a useful feature that allows users to have the main Spotify functionality and share music with one another. If given more time and resources, we have a few ideas for where the future of this project could go. One idea we have had since the conception of this project was to implement what we call “aux battles”. The idea here is that multiple users could queue songs one after another and whichever one gets the most likes wins. This could add a fun game aspect to this feature. Another idea would be to implement automatic registration with the Spotify API. It would be somewhat involved as the Spotify Web API does not have this by default so we currently need a team member to manually register users, but this would make the app more streamlined. It would also be convenient for users to play music directly from Covey.Town without selecting a device to play music. While our version has its benefits as the user can select whatever is most convenient for them, it would simplify the process of using our feature to have a default behavior.



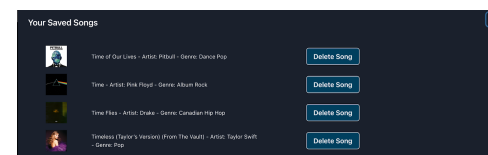
Main UI



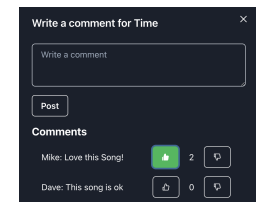
Interactable



Song Analytics



Retrieving Saved Songs



Comment Section