

# CMSC 388J Final Project Proposal

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## Project Description

The project that we decided to make was a Music Review website where users can write reviews about various music dating from the oldest tracks to the most recent ones. We will be using the Spotify API in order to get metadata on the Songs, Artists, Genres and Albums (<https://developer.spotify.com/documentation/web-api/>). The basic gist about this project is to have users be able to like Songs, Artists, Albums etc. and be able to add them to their list of liked songs and other features that will be mentioned later. In order to make this as personal as possible we will add in registering and logging in for users. In this way a user will be able to identify their account with their liked songs that are present. In addition, we will also have a review feature where users will be able to add their reviews on the song. The reviews will be viewed only by existing users and you can write a review only if you are a user and have an account. Another functionality provided by our website is that we will display the Billboard Hot 100 list of songs on the main home page using BeautifulSoup to scrape the information from Billboard's website (<https://www.billboard.com/charts/hot-100>).

## How each requirement will be satisfied:

- **Registration & Login**

- Registration - If users want to use this website and be able to access different features they will have to register for the services.
- Login - Once registered the concerned users will be able to post reviews and comments, add liked songs, genres, albums or artists to their lists and also be able to search up different users to see and compare their music taste with any other **registered user**.
- 2FA - We will require each user to go through two factor authentication every time they log into the website. This will be done the same way as shown in class (Week 12 slides).

- **Forms**

- LoginForm - Will be used for users to login.
- RegistrationForm - Allows users to register.
- UpdateUsernameForm - Allows a user to update their username.
- SearchSongForm - Will allow users to search for a song on the website by querying song names, artists, albums, etc.
- SearchUserForm - Allows users to search for other users on the website.
- SongReviewForm - Will be used to write reviews for a song.

- **Database**

- We will maintain a database to store user information like their name, email id, username, liked songs.
- This database will also be used to store user reviews for songs.

- **Security**

- In order to make this web - application as secure as possible we will prevent any kinds of injection attacks where unauthenticated users input malicious data.
- This will mainly be handled by ensuring input sanitization.
- Sanitization of any inputs will also be able to prevent any kind of cross site scripting which could potentially compromise the interactions users have with any kind of web based application.
- **Blueprints**
  - We plan to use blueprints for users and for a particular song.
  - The user blueprint will contain user functionality like logging in and out, writing reviews, liking songs, etc.
  - The song blueprint will be used to get information about a particular song which would include the reviews on it, and the list of users who like the song.
- **Presentable/Looks nice**
  - We will be using bootstrap and css to style our website.
- **Use of a new Python package**
  - We will use BeautifulSoup to scrape a website and obtain the Billboard Hot 100 songs. This will be a separate tab on the NavBar (bootstrap) and every time the user loads the page, the scraped table of Hot 100 songs is displayed.
- **Evidence of Usage**
  - We will create a few dummy users after deploying the website so that the app looks alive.
  - We will test different functionalities of the web-application

## **Future Development**

After we have built the preliminary website based on the above specifications, we would first try to make this website scalable for mobile devices as well as computers.

We then plan on increasing functionality beyond the scope of this class by adding support for Shazam and including Genius lyric descriptions/captions. We also plan on adding functionality where users can follow each other and recommend songs to each other.