San Jose State University

Project Requirement Document

Project Name: YouRMusic

Team number: 20

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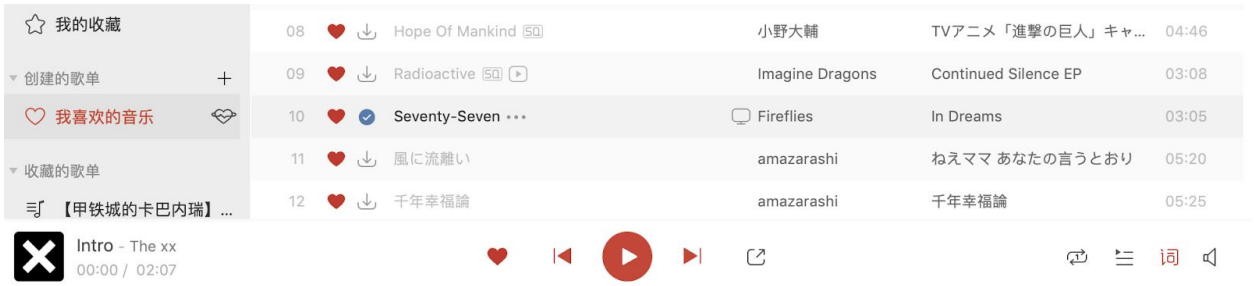
Project Description

This project **YouRMusic** is simulating the ultimate music streaming website from a real-world Music website. It will clone some real events: the customer may create a new account, and log in to his/her user pages; the user can play the music online and operate to add or delete a song into his favorite music list. The goal of our application is to provide a convenient way to listen, add, remove, and search for a song. If the user likes a song, he can either share or like that song. Besides, our application will also provide a beautiful user interface that is clear and intuitionistic.

- The picture below is an example:



At the same time, our application also provides a user interface for the backend engineer. The goal of this back-end UI is to provide an easy way to manipulate data. For example, if the customer rates a song, the customer can give a like or negative feedback on that song, then our back-end engineer will manipulate the database to import or delete a song. After that, we will push the result to the front-end website. In short, we hope to separate the front-end website and back-end website.

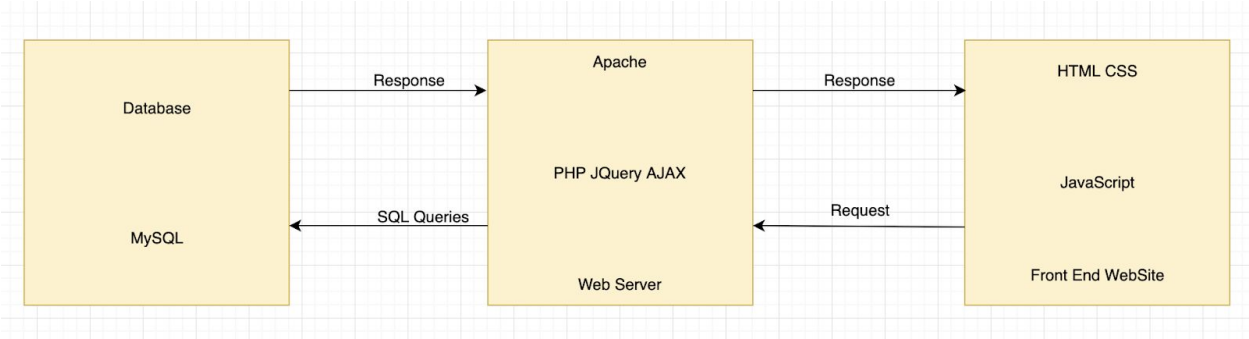
Speaking about the motivation, there are times when people forget about when their favorite artists release music so we develop this website to make sure that the music listeners will get the notification of the latest music release as soon as possible. By thinking that way, we plan to create one of our major features: new music reminder. By this feature, this project will be important in retaining customer attention and awareness of the latest songs in the market, which will benefit the music lovers.

The stakeholders of this project will be the people who listen to music, people who want to get to know about music or everyone involved in the entertainment industry.

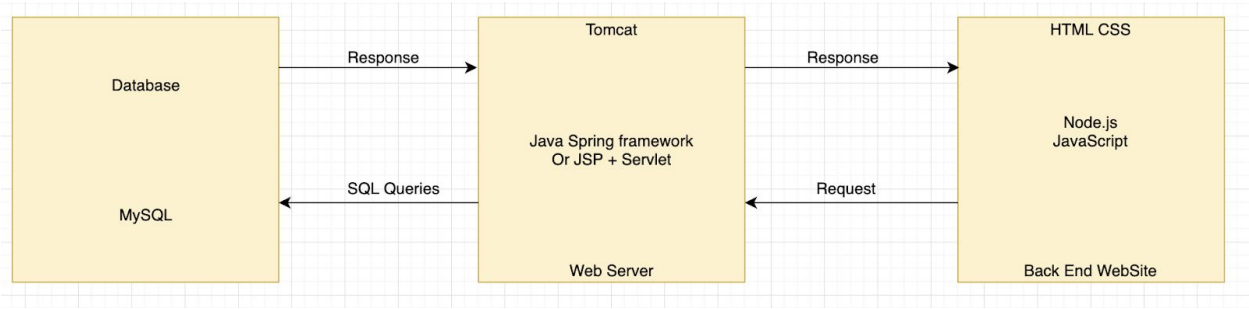
System Environment

Structure of the System

1. For customer three-Tiered



2. For back-end engineer three-Tiered



Hardware and Software used

- MacBook Pro
- macOS Windows
- Apache Tomcat
- Visual Studio Code
- Intellij Idea
- PhpStorm

RDBMS

- MySQL Ver 15.1 Distrib 10.3.16-MariaDB

Application Languages

- Java, Java EE,
- HTML, CSS, JavaScript, JQuery, PHP, XML, MySQL, Node.js
- Spring framework

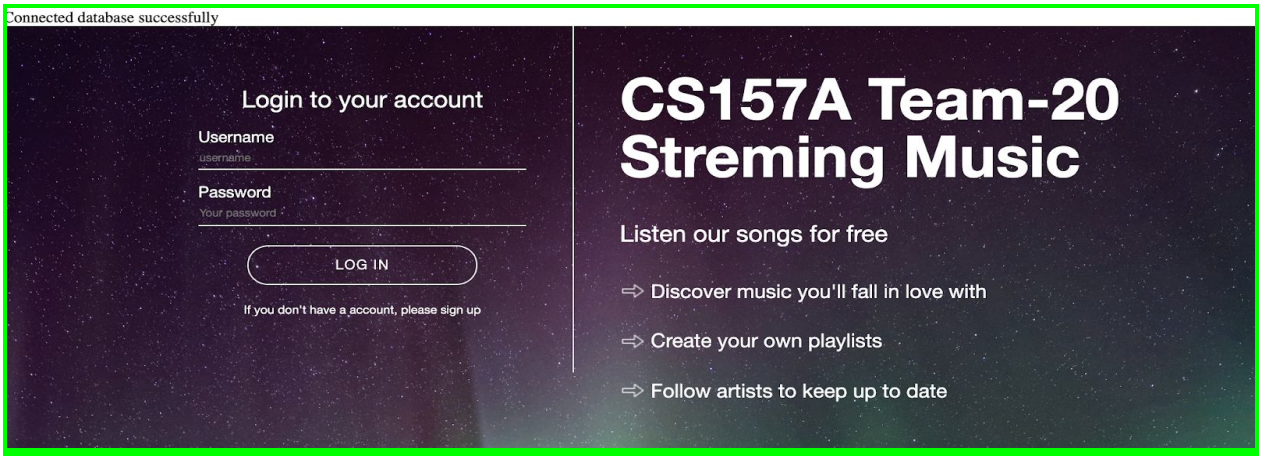
Functional Requirements

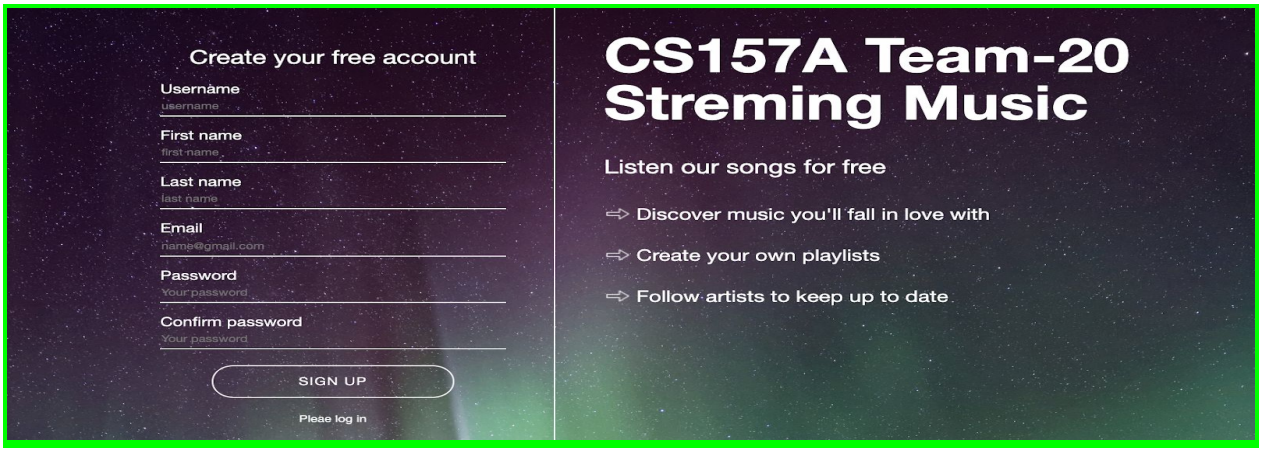
The users of this website will be everyone who wishes to listen to the music. They have the capacity to access the website freely. In order to interact with our website project, the name of the website can be entered in any browser. They'll see a lot of music to choose from when they have access to the site. Users will have many characteristics to execute on our website, such as login to a registered account, creating a new account, looking for a song, adding, removing a song from their playlists, and setting up a new music reminder appointment.

1)Login and creating account feature

By login with an account, users gain the ability to modify many music lists as they wish for. Without logging into the account, the users can only listen to music on our website. When the user accesses to the web page, he/she has an option to log in to the website with an existing account. They can type in the user name and password of their own to log in. In case the user needs to generate a new account, they can click on the term “Sign up” under the “LOGIN” button. In creating a free account side, the user needs to input username, first name, last name,

email address, and password. The password will have to be entered twice so that the user can make sure they type in the correct password of their choice.





2)Searching for a song on our website

This feature can be performed for both with and without account users. The user can look at the top of the page and click on the text box for typing. Then, he/she can enter a song name to search for that specific name. If the name of that song is not on the list, it means that the song does not exist or it's not in the databases.

3) Adding and removing music(s) feature

After logging in with an existing account, the users now can modify the music playlists. They can add a song to their own list by searching for a song name in the searching text box and click

on “add the song” in that specific song. If the user wants to delete a song, they will have to go into their music list(s), choose a song they want to remove, click “remove” on that song.

4) Making an appointment for the reminder of the new release song

To set a notification for an artist's new release, the user must be logged in to an account or will have to sign up first. Afterward, they can find the artist and right-click on the options and or click on a bell notification symbol next to the profile.

As the managers of the website project, we can use all of the features about just like the users. In addition, we can make a change in the databases such as adding and deleting some music(s).

Non-functional Requirements

The Graphical User Interface or GUI will be similar to many online streaming services such as Tidal or Spotify’s interface. Although, we want to make some drastic changes in sections in order to increase user-friendliness and also make room for our own extra features. For example, our notification functionality would be more pronounced for the user to set a reminder and those should pop up on a news feed page once the song or album is released. We want to ensure that what makes us unique in the music streaming industry is further promoted in our application interface.

In terms of design, we want to make sure that we thoroughly test out our changed website via A/B Testing. This test will allow us to make minor changes, let’s say against Spotify and then we would be able to track user metrics on whether or not we improved user intuitiveness against their design. We hope that every change we do would provide a slightly better result in human-computer interactivity and hopefully, the sum of all those changes would make us stand out against competitors. Also, we hope not to overload the user with a bunch of information so we will take notes on human interaction theories such as only having a max of 9 options in a

grouping based on people's ability to handle 7 options at once, give or take 2 based on the user's cognitive function and attention span. That theory, for example, is called "The magical number seven, plus or minus two".

Security will be tight regarding access to the music database and user information. We do not want everybody to be able to directly download artists' intellectual property as well as them having access to our private user information. User passwords will be salted and hashed in order to reduce the chances of a password hit. Also, after five failed login attempts the user will have to recover their account via stored email as we need to do our best to prevent a brute force attack. The permissions we allow each user should not have much effect on our system until it gets up to an artist or administrative account, but we will still have checks and balances with other admins if an admin account wants to delete or modify any of the production code or site functionality.

Access Control in this system will be based on whether the user has an account or not. We will be able to set permissions on playlist creation, music download and such. A user without an account should only be able to listen to music but should be unable to rate, ask for song notification and create a playlist. The next level up would be having an account and they would be able to create playlists, download music, and ask for song notifications. Beyond that would be artist accounts to allow our content creators to upload their music for fans to listen to. They would have all the permissions of a regular user but can access some data metrics on their song views and payout per listen. At the top would be administrative accounts, which would be able to access anything with almost complete control, except there still would be a check and balance if an admin tries to delete an account or music. It should notify other admins and take a majority vote to implement that change.