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SoftDev1 pd01  
Project Name: RYthEM  
Design Document

Description: Our website is all about music🎵 We want to create two games: HigherLower and GuessTheSong. We also want to make user accounts where you can see all the songs you’ve liked from the two games.

### APIs

- **Spotify:** Retrieves a user’s playlists, songs, and recommendations
- **Lyrics API:** (Genius) - Retrieves a song’s lyrics.

### Core Components

- A. Navigation Bar
  - Present on every page to connect their Spotify, view home page, play HigherLower, play GuessTheSong, and see Liked Songs.
- B. User Accounts
  - Users must register for an account and log in to “Heart” new songs that they might like when they’re playing the games.
    - Users with accounts can view their “Hearted” songs, which will be linked to listen to the song on Spotify
  - Users can also link their Spotify accounts with their accounts, and use their own music from their Spotify account in the games instead of random songs
  - Don’t need to register to play games
- C. HigherLower
  - You’ll be shown two cards with the names of two songs. You simply have to decide whether the second card’s number of “monthly listens” is higher or lower than the first card.
    - Data about “number of monthly listens” to a song from Spotify API.
  - As you progress, you will be shown a new card. Choose higher or lower to decide whether it is listened to more or less than the previous card. The objective is to get the most right in a row. If you get one wrong, you lose the game.
- D. GuessTheSong
  - You’ll be shown the lyrics to a song. Guess what song the lyrics are from. MC.

### Optional Components (if we have time)

- Allow the user to choose what genre of music they want their HigherLower or GuessTheSong games to be.
- FinishTheLyrics
  - You’ll be shown the lyrics to a song with two blanks in it. Fill in the blanks.
  - Multiple choice question.
- Song Search
  - Users can search for songs to find the song’s info/link to listen on Spotify or lyrics or songs similar to it.
- Use that quotes API to have motivational quotes
- Sound visualization lol

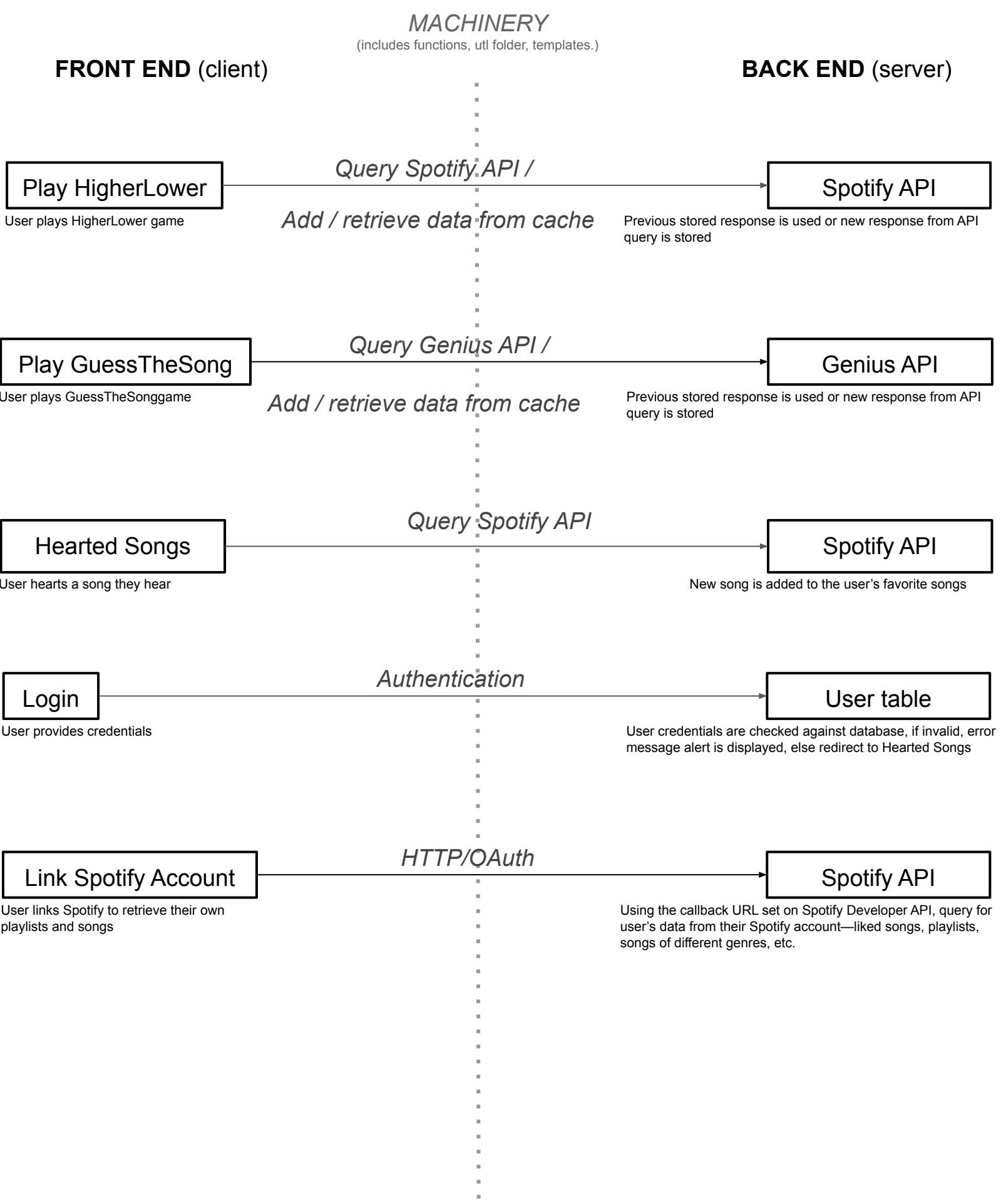
Communication App: Slack

# Breakdown of Tasks

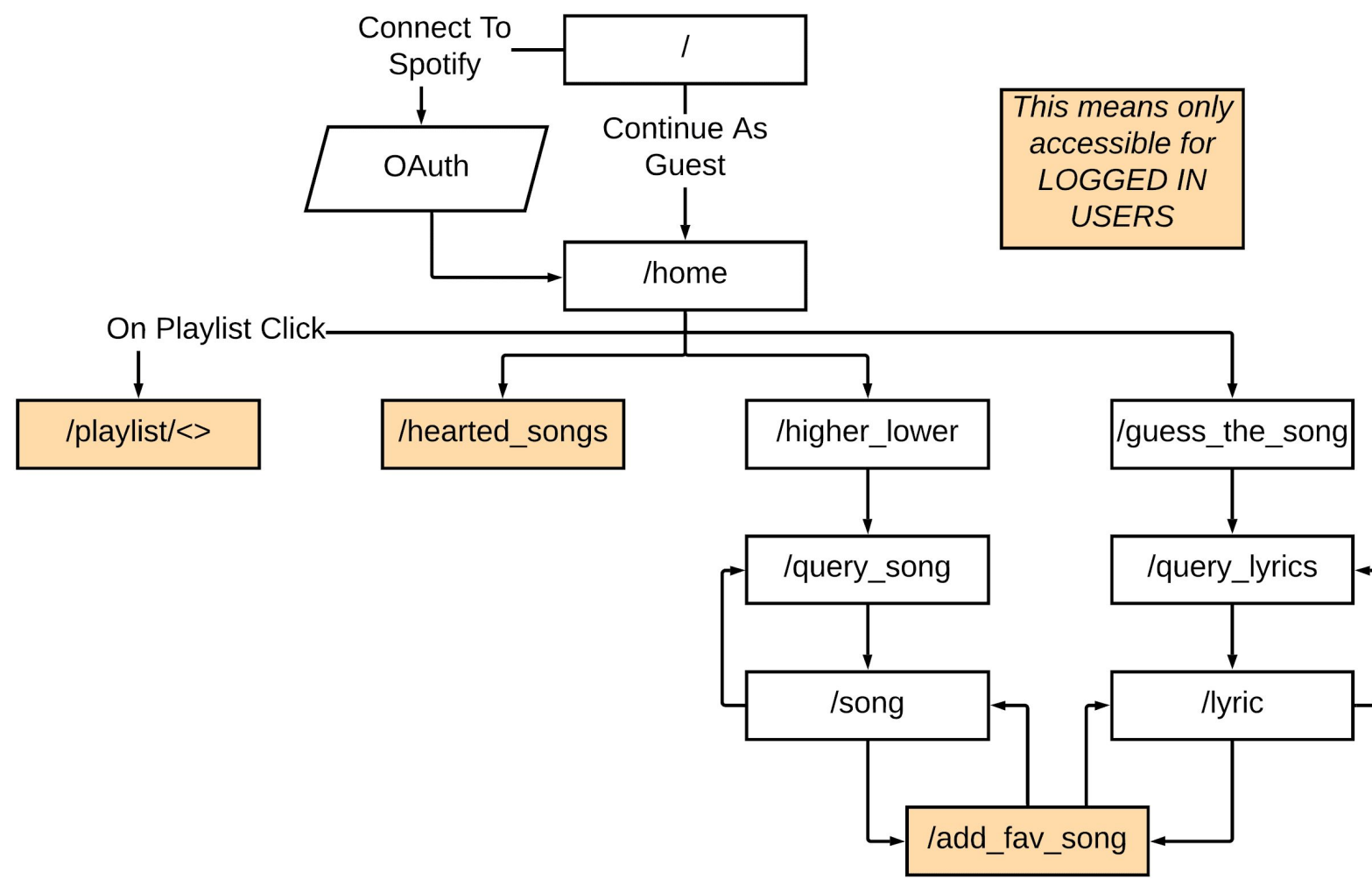
## TASKS

- A. Project Manager (Yaru)
  - Oversees project development
  - Keeps frontend/backend codes consistent
- B. Spotify login & Frontend (Eric)
  - Creates HTML templates and pages according to sitemap
  - Jinja
  - Bootstrap and custom CSS styling
    - We are using Bootstrap because we are all more comfortable with it and believe it looks better than Foundation
  - The Connecting with Spotify part
- C. Higher Lower (Raymond)
  - Write Python scripts to handle requests to modify or retrieve data from databases and Spotify API using HTTP/necessary OAuth
  - Make SQLAlchemy models for the database tables
    - Assist with retrieval from APIs using OAuth
- D. Guess the Song (Matthew)
  - Write Python scripts to handle requests to modify or retrieve data from databases and Genius API using HTTP/necessary OAuth
  - Make SQLAlchemy models for the database tables
    - Assist with retrieval from APIs using OAuth

Component Map



Site Map



HomeHigher LowerGuess The SongMy Hearted Songs

Connect with Spotify

# What songs are listened to more?

Cras justo odio, dapibus ac facilisis in, egestas eget quam.  
Donec id elit non mi porta gravida at eget metus.

<Play now>

HigherLower  
Donec sed odio dui.  
Etiam porta sem  
malesuada magna  
mollis euismod.  
View details >>

GuessTheSong  
Nullam id dolor id nibh  
ultricies vehicula ut id  
elit.  
View details >>

My Hearted  
Songs  
Morbi leo risus, porta  
ac consectetur ac,  
View details >>

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[Home](#)[Higher Lower](#)[Guess The Song](#)[My Hearted Songs](#)

Connect with Spotify

# The Higher Lower Game

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Non illo, alias animi iusto neque, sint corrupti? Laudantium, dignissimos id excepturi facilis, facere saepe quasi placeat praesentium ipsa sapiente illo molestiae?

Play Now

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[Nav Bar](#)[Home](#)[HigherLower](#)[GuessTheSong](#)[My Hearted Songs](#)

Connect with Spotify

## “Supercut” by Lorde

has

94,156,026

average monthly listens

▶

♥

play song heart song (can only heart if logged in)

VS

## “High Voltage” by AC/DC

has

Higher ▲

Lower ▼

average monthly listens than Supercut

▶

♥

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[Home](#) [Higher Lower](#) [Guess The Song](#) [My Hearted Songs](#) [Connect with Spotify](#)

# Guess The Song

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Non illo, alias animi iusto neque, sint corrupti? Laudantium, dignissimos id excepturi facilis, facere saepe quasi placeat praesentium ipsa sapiente illo molestiae?

Play Now

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*"Yesterday, all my troubles seemed so far away / Now it looks as though they're here to stay / Oh, I believe in yesterday"*

Beatles Come Together

Beatles Hey Jude

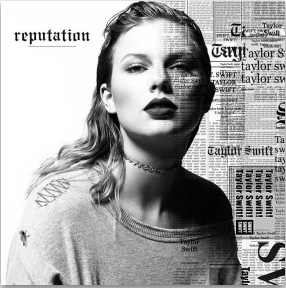
Elvis Presley Hound Dog

Beatles Yesterday

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HomeHigher LowerGuess The SongMy Hearted Songs


Connect with Spotify



### “Getaway Car”

Artist: Taylor Swift  
Album: Reputation


Listen on Spotify



### “Winter”

Artist: Khalid  
Album: American Teen


Listen on Spotify



### “Whole Lotta Love”

Artist: Led Zeppelin  
Album: Led Zeppelin II

Listen on Spotify



### “Aloha”

Artist: Møme  
Album: Panorama

Listen on Spotify

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To continue, log in to Spotify.

LOG IN WITH FACEBOOK

OR

122raymond@gmail.com

Password

☒ Remember me

LOG IN

[Forgot your password?](#)

Don't have an account?

SIGN UP FOR SPOTIFY

If you click "Log in with Facebook" and are not a Spotify user, you will be registered and you agree to Spotify's [Terms & Conditions](#) and [Privacy Policy](#).

This is the  
connect with  
spotify  
button



**RYthEM**

**You agree that Spotify Games will be able to:**

**View your Spotify account data**



Your name and username, your profile picture, how many followers you have on Spotify and your public playlists

You can remove this access at any time at [spotify.com/account](https://spotify.com/account).

For more information about how RYthEM can use your personal data, please see RYthEM's privacy policy.



Logged in as Raymond Lee.  
([Not you?](#))

AGREE

CANCEL

# Database Layout

songs		
primary key	songID	INT
	albumID	INT
	artist	TEXT
	title	TEXT
	genre	TEXT
	lyrics	TEXT
	n listens	NT

albums		
primary key	albumID	INT
	title	TEXT
	coverartlink	TEXT

stores the coverArtLink for each album instead of per song

albumIDs are the same in the song and albums data tables

- albumIDs act like a foreign key
  - A foreign key is a column (or columns) that references a column (most often the primary key) of another table.