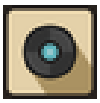
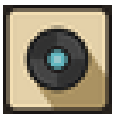
GRAMO

Developed By: ANUJ KAMBOJ

ABSTRACT

In this project, we design and implement a fully responsive music suggestion webapp  GRAMO- with React framework which interacts with user to provide them the best music based on their interests and accredit for the user to play and enjoy their music directly via Spotify, the best music player in the tech world.

ACKNOWLEDGEMENT

Working on this  project on **“** GRAMO “ was a source of immense knowledge to me and a solid base to enhance my skills. I would like to express my sincere gratitude to **Mr. Nanda Kishore, Board Infinity** for his guidance and valuable support throughout the course of this project work. I acknowledge with a deep sense of gratitude, the encouragement and inspiration received from the members.

I respect and thank **all the concerned personnel**, for providing me an opportunity to do the project work with **rural education development trust** and giving me all support and guidance, which made me complete the project duly. I am extremely thankful for providing such a nice support and guidance. I avail this opportunity to extend my heartful thanks and deep respect to all the concerned.

OBJECTIVE

The objective of the project is to design and develop a music suggestion React webapp. The webapp should be deploying React framework and useState react hook in addition to HTML5, CSS3, JavaScript concepts along with online editor CodeSandbox.

The objectives of the project can be summarized with the points below:

1. To find if the mood of the user can be a crucial factor in the music recommendation system.
2. To develop a user-friendly webapp with a smart work experience.
3. The webapp should be able to run on all display peripherals.

TABLE OF CONTENTS

System Requirement Documents for GRAMO

1.1 Purpose

The purpose of this document is to establish how the application should interact with the end user and establish all application requirements functional and non-functional. This document will clearly present functionalities expected from the webapp. Once finalized, this document will state what must be accomplished for the application to be considered finished.

1.2 Scope

This SRS covers several potential use cases that users may encounter, as well as an overview of the project and its intended uses. Once concluded, this document will state what must be competent for the webapp to be assessed complete.

1.3 Definition, Acronyms, Abbreviations

Gramo	- Any sound-recording device, or device for playing previously recorded sounds, especially if it uses a flat spinning disk
BEAT	- Blues Evincing Application

1.4 Overview

Music is a part of all our lives, from when we're growing up to when we're old. We grow up to the sound of our mothers singing us lullabies so that we'd go to sleep. Music is one of the most calming

and soothing things if you let it be. It comes from melodies and tunes strung together by people who sing and play musical instruments. The power of music shows in the simplest of things, such as when you absentmindedly tap your foot to a beat or hum a tune unknowingly.

The developed webapp smartly suggests Music according to users' interests and redirects to selected song or album Spotify weblink. This enables the user to listen to his favourite tunes with just a few taps. The UI of webapp is extremely user-friendly and has a cross platform functionality means it can run seamlessly across various device platforms without a hassle.

1.5 Perspective

"GRAMO", a marvellous music suggestion app
"Spotify", a popular music streaming app

1.5.1 Concepts

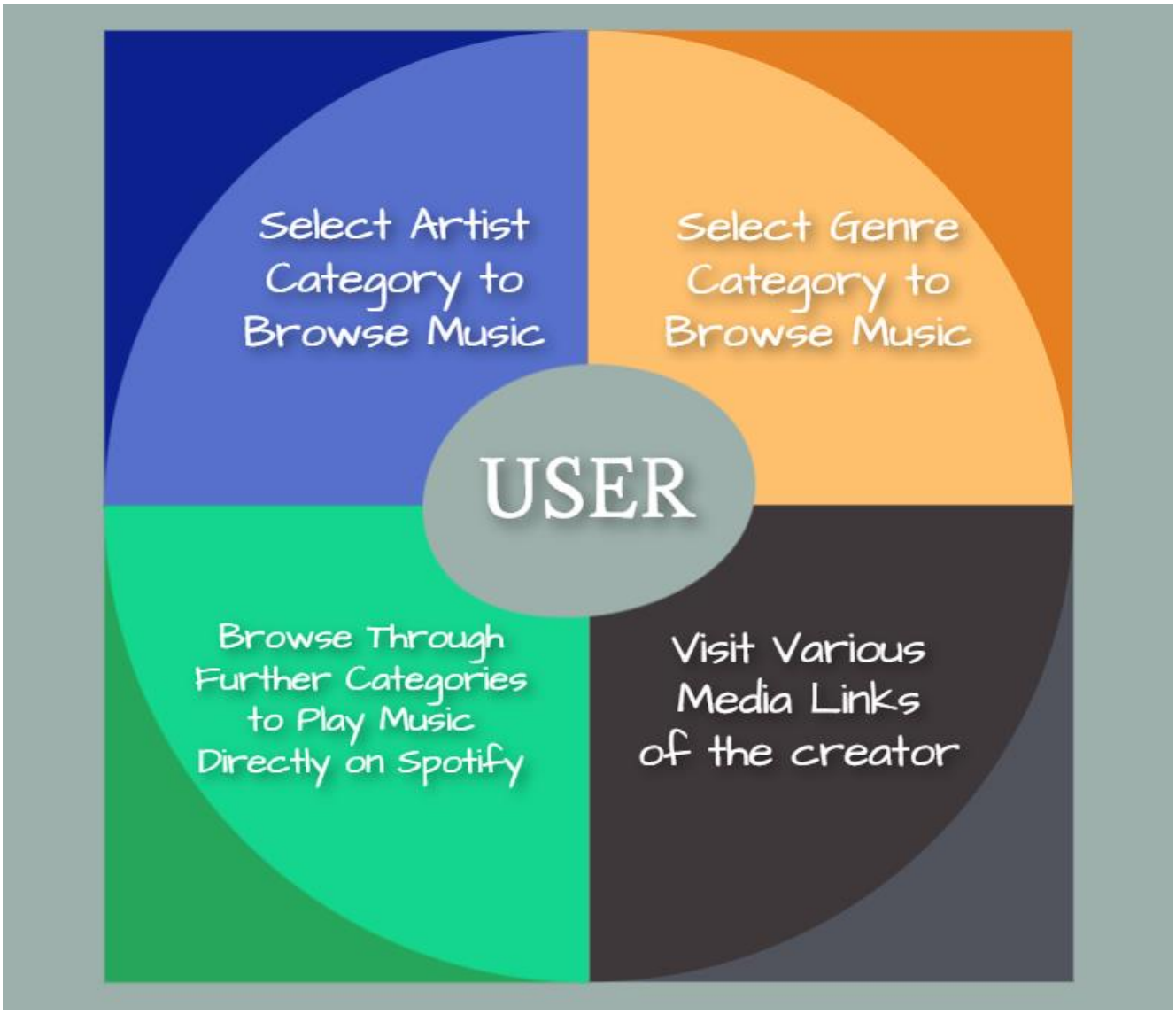
This project will be a web-based application that allows the user to choose from a wide category of songs based on their interests. They will be able to select from varied categories.

This system will be supported by a database, which will store lists of songs, artists and albums. We utilize a cross-reference table to make communication between the databases easier for ourselves. The frontend will make requests to the backends' databases in order to function desirably.

1.5.2 Hardware Interfaces

Any device peripheral either mobile or non-mobile that supports a modern web browser and enables JavaScript functionality.

1.6 Functions



1.7 Assumptions and Dependencies

Assumptions

- Users have access to reliable Internet service.
- Users have preinstalled Spotify application on their devices.

Dependencies

- The user must have a valid web browser.
- The User must be using a non-mobile device.

2 SPECIFIC REQUIREMENTS

2.1 Features

2.1.1 Authentication
2.1.2 The Users database is all handled as it provides a robust and secure handling of sensitive user information.
2.1.3 Spotify Authentication
2.1.4 Using the Spotify Web API to play songs on Spotify.
2.1.5 Adding Songs
2.1.6 Song Playing

2.2 Performance Requirements

2.2.1 [None]

2.3 Design Constraints

2.3.1 The Spotify Web SDK
2.3.2 Spotify Terms of Service
2.3.3 Needing to follow Spotify’s Terms of Service, we needed to add new functionality to follow their requirements.
2.3.4 Created limitations in terms of the project's file structure, leading us to move pieces of the project higher in the directory.

2.3.5 Request Forgery Protection
2.3.6 Created limitations in terms of the project's file structure due to different origin requests. This led us to move pieces of the project higher in the directory.

2.4 Software System Attributes

2.4.1 **Reliability**
2.4.1.1 Both frameworks we use are popular and well-established with continuous support, allowing us to continue developing with them without fear of near-future refactorization.

2.4.2 **Availability**
2.4.2.1 Gramo is available to anyone with an internet connection.

2.4.3 **Security**
2.4.3.1 React supplies security middleware to handle encryption and request forgery.

2.4.4 **Maintainability**
2.4.4.1 React and CodeSandbox scale very well, so adding more features would not be difficult.
2.4.4.2 Both of our root frameworks are easy to learn. If other developers were to join the project, they could begin development rather quickly

2.4.5 **Portability**
2.4.5.1 App will be available to anyone who has a browser and internet connection. A user could use any device.

CERTIFICATE OF COMPLETION

THIS CERTIFICATE IS AWARDED TO

Anuj Kamboj

for successfully completing
Front End Development Course

13th Jul, 2021		BIDT2345987568
ISSUED DATE	CEO, Board Infinity Sumesh Nair	CERTIFICATE NO.

BOARD

METHODOLOGY

GRAMO is easy to use application. The main components of application are – React app implementation, JavaScript modulation and basic knowledge of HTML5, CSS3 and other web development components. In our app, we have a **genre** category and an **artist** category.

- **The genre** category further consists of sub-category of various genres such as pop, hip-hop, romantic, etc
- **The artist** category similarly consists of sub-category of various artists such as Arijit Singh, Travis Scott, Dua Lipa, etc

Each time the **User** browses through various categories and sub-categories, he/she/they are presented with a library of pre-selected music based on their selections, which have a direct **Spotify** plug-in to play it directly in the Spotify app.

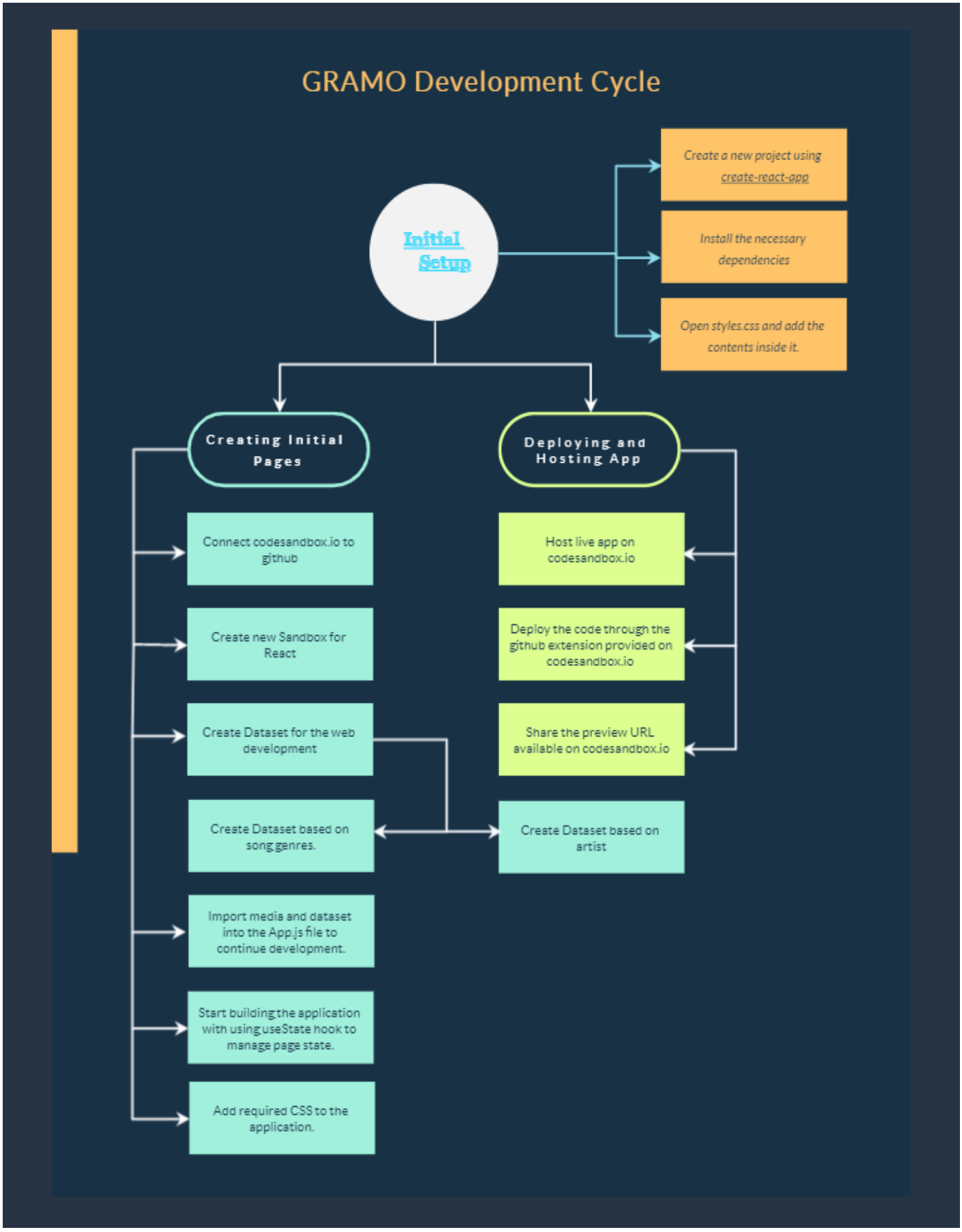
The web-application is developed using React in CodeSandbox.io and has a very minimalist, clean, simple UI with main motive for user friendliness. The datasets are limited in number as it is an initial level deployment of the project, but it can be further expanded to include more features in order to make the web-application even more interesting.

Modules Used: React framework, useState react hook

GRAMO webapp CodeSandbox link: https://codesandbox.io/embed/github/Anuj27aKamboj/Gramo-projectX/tree/main/?fontsize=14&hidenavigation=1&theme=dark&view=preview

GRAMO Source Code link: https://github.com/Anuj27aKamboj/GRAMO-projectX

FLOW CHART


GRAMO Development Cycle
Initial Setup
Create a new project using create-react-app
Install the necessary dependencies
Open styles.css and add the contents inside it.
Creating Initial Pages
Deploying and Hosting App
Connect codesandbox.io to github
Create new Sandbox for React
Create Dataset for the web development
Create Dataset based on song genres.
Import media and dataset into the App.js file to continue development.
Start building the application with using useState hook to manage page state.
Add required CSS to the application.
Host live app on codesandbox.io
Deploy the code through the github extension provided on codesandbox.io
Share the preview URL available on codesandbox.io
Create Dataset based on artist

DISCUSSION AND CONCLUSION

The objective of the project is to design and develop a music suggestion React webapp. After careful implementation of the code and proceeding as per the requirements we can validate that all the requirements from the project have been achieved.

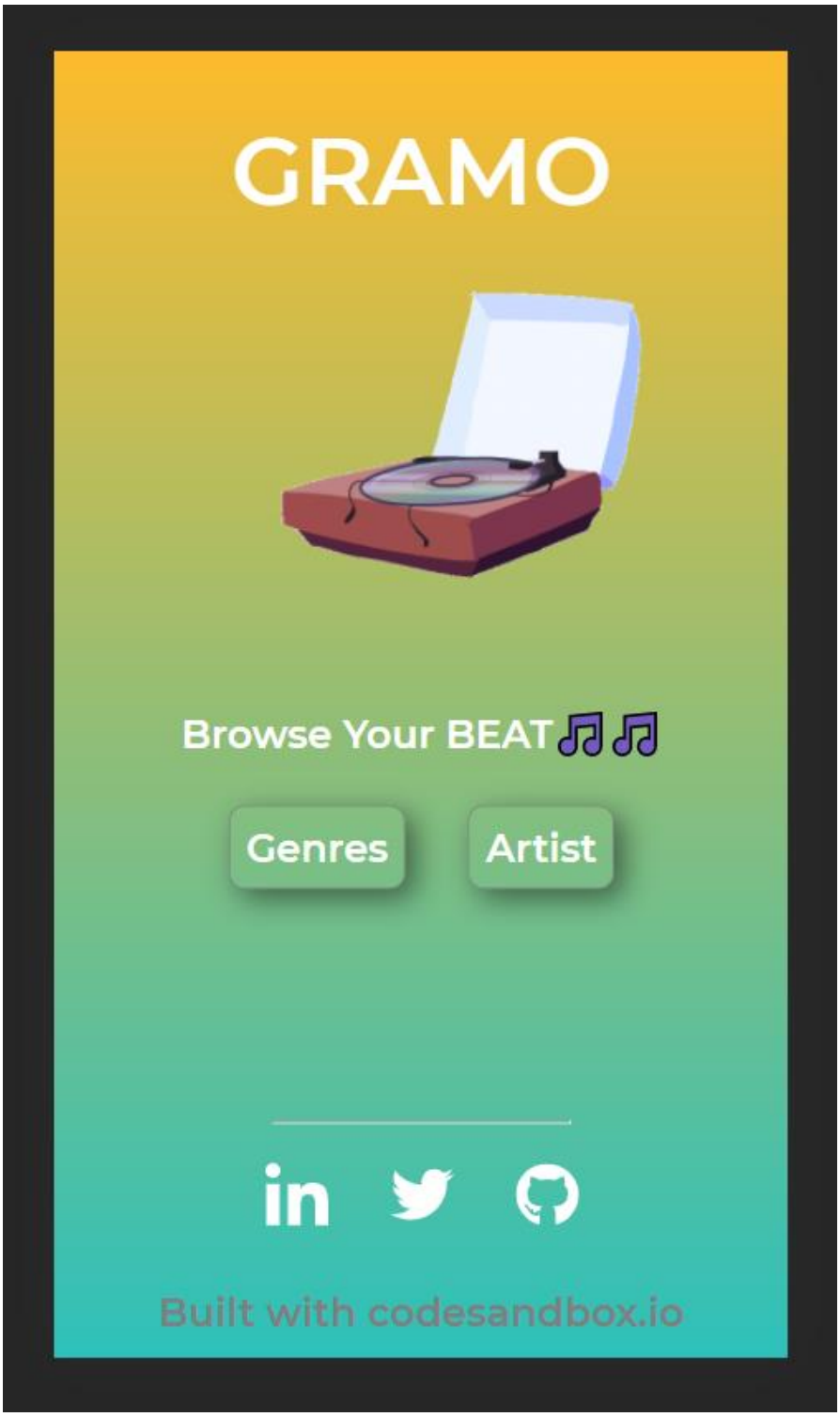
On visiting the live webapp preview link the user is displayed with home screen that presents main categories – Genre and Artist to choose from. The page also provide links to **LinkedIn**, **Twitter**, and **GitHub** profiles of the developer of the project. After they have made a choice from displayed classification, they are presented with sub-category to match their interests. These browsing progressions take you to song libraries and make it possible to listen their tunes via Spotify app.

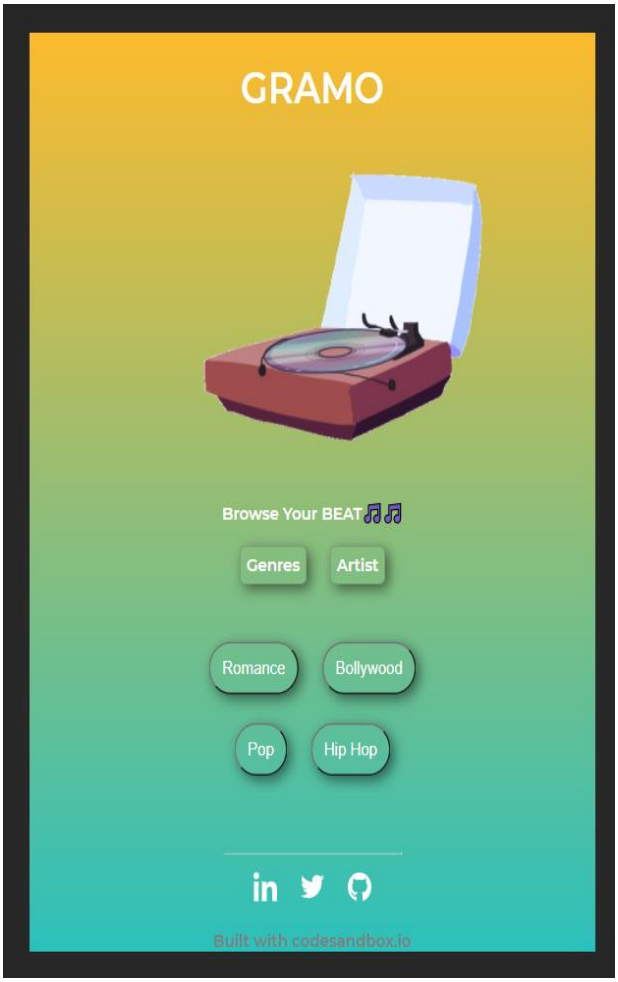
Hence the web-application was able to satisfy all the requirements.

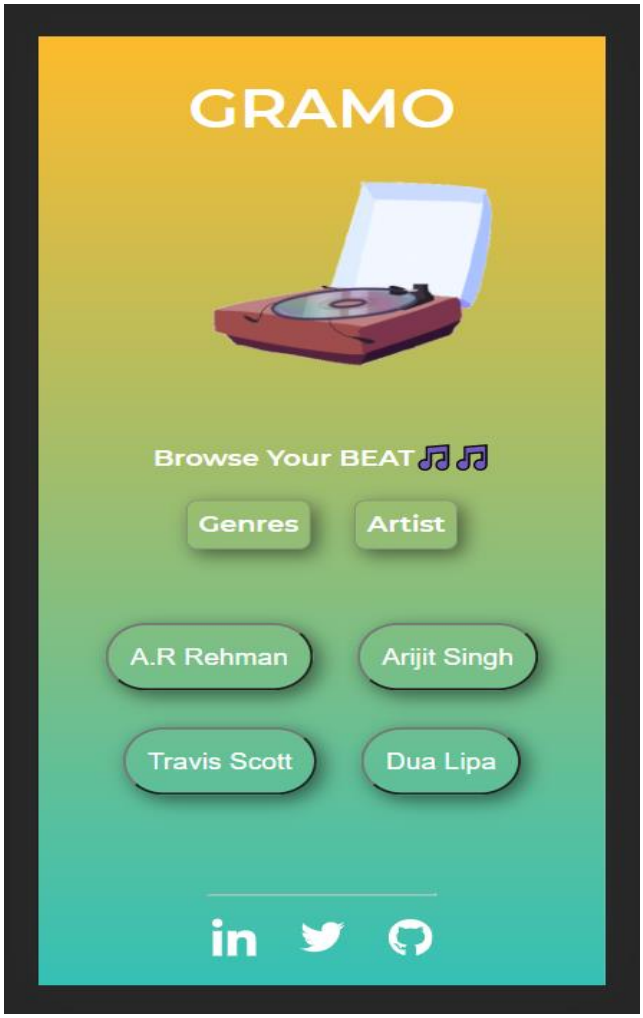
However, there is always a scope for improvements and improvisations. For instance, in our app there is only pre-installed music library. Another way of stipulating the songs could be availability of a search bar. However, doing this would require to creation of a larger database but it would slow down the loading application. Although if someone wants, they can add more features through the source code available on the link provided earlier.

SCREEN SNIPPETS

The image showcases the home screen of the GRAMO webapp.




GRAMO
Browse Your BEAT
Genres
Artist
Romance
Bollywood
Pop
Hip Hop
Built with codesandbox.io


GRAMO
Browse Your BEAT
Genres
Artist
A.R Rehman
Arijit Singh
Travis Scott
Dua Lipa

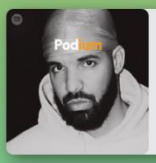
GRAMO

Browse Your BEAT🎵🎵

Genres Artist

Romance Bollywood

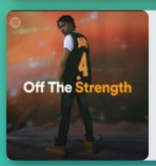
Pop Hip Hop



Podium
2020
Listen On

Gold School
2020
Listen On

Mellow Bars
2020
Listen On



Off The Strength
2020
Listen On

Built with codesandbox.io

GRAMO

Browse Your BEAT🎵🎵

Genres Artist

A.R Rehman Arijit Singh

Travis Scott Dua Lipa

RockStar
2011
Listen On

Tamasha
2015
Listen On

Dil Se
1998
Listen On

Highway
2014
Listen On

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