MINI PROJECT

(2021-22)

Spotify Web Clone

Project Report

Institute of Engineering & Technology

Submitted By

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Under the Supervision Of

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Declaration

I/we hereby declare that the work which is being presented in the Bachelor of technology. Project **"Spotify Web Clone"**, in partial fulfilment of the requirements for the award of the ***Bachelor of Technology*** in Computer Science and Engineering and submitted to the Department of Computer Engineering and Applications of GLA University, Mathura, is an authentic record of my/our own work carried under the supervision of **Mr. Piyush Vashistha**, **Asst. Professor, Dept. of CEA, GLA University.**

The contents of this project report, in full or in parts, have not been submitted to any other Institute or University for the award of any degree.

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CERTIFICATE

This is to certify that the project entitled "Spotify Web Clone", carried out in Mini Project – II Lab, is a Bonafide work by Abhay Kumar, and Aryan Tiwari is submitted in partial fulfilment of the requirements for the award of the degree Bachelor of Technology (Computer Science & Engineering).

Signature of Supervisor:

Name of Supervisor: Mr. Piyush Vashistha

Date: 25-05-2022

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ACKNOWLEDGEMENT

Presenting the ascribed project paper report in this very simple and official form, we would like to place my deep gratitude to GLA University for providing us the instructor Mr Piyush Vashistha, our professor and supervisor.

He has been helping us since Day 1 in this project. He provided us with the roadmap, the basic guidelines explaining on how to work on the project. He has been conducting regular meeting to check the progress of the project and providing us with the resources related to
the project. Without his help, we wouldn't have been able to complete this project.

And at last, but not the least we would like to thank our dear parents for helping us to grab this opportunity to get trained and also my colleagues who helped me find resources during the training.

Thanking You

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ABSTRACT

This Web Application “Spotify Web Clone” has been submitted in partial fulfilment of the requirements for the award of the degree of Bachelor of Technology in Computer Science and Engineering at GLA University, Mathura supervised by Mr. Piyush Vashistha. This project has been completed approximately one month and has been executed in modules, meetings have been organised to check the progress of the work and for instructions and guidelines.

Founded by Daniel Ek and Martin Lorentzon, Spotify actually started as a small start-up in Stockholm, Sweden.

They developed the platform in 2006 as a response to the growing piracy problem the music industry was facing.

Launching two years later, Spotify offered music fans a free service with advertising, in hopes they would upgrade to the £10 a month ad-free subscription.

Before streaming services came along you might have been guilty of using controversial file sharing sites like Napster, LimeWire and The Pirate Bay to download your music.

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INTRODUCTION

1.1 CONTEXT

This Web Application “Spotify Web Clone” has been submitted in partial fulfilment of the requirements for the award of the degree of Bachelor of Technology in Computer Science and Engineering at GLA University, Mathura supervised by Mr. Piyush Vashistha. This project has been completed approximately one month and has been executed in modules, meetings have been organised to check the progress of the work and for instructions and guidelines.

1.2 MOTIVATION

Founded by Daniel Ek and Martin Lorentzon, Spotify actually started as a small start-up in Stockholm, Sweden.

They developed the platform in 2006 as a response to the growing piracy problem the music industry was facing.

Launching two years later, Spotify offered music fans a free service with advertising, in hopes they would upgrade to the £10 a month ad-free subscription.

Before streaming services came along you might have been guilty of using controversial file sharing sites like Napster, LimeWire and The Pirate Bay to download your music.

This cost the music industry millions each year because well - you're not paying for the songs.

"I realised that you can never legislate away from piracy," Daniel told The Telegraph in 2010.

"The only way to solve the problem was to create a service that was better than piracy and at the same time compensates the music industry."

He also had a slight hunch his streaming service would one day be worth "tens of billions".

1.3 OBJECTIVE

The main moto behind this is to get user a perfect music experience with the ever music available online. Weather its old or latest with the Spotify algorithm we will recommend and push that music toward user which user likes and keen to listen repeatedly. Main moto is to provide user a better and a quality user experience with better recommendation and various customize features like build own playlist and add favourites etc.

1.4 EXISTING SYSTEM

Spotify offers digital copyright restricted recorded music and podcasts, including more than 82 million songs, from record labels and media companies. As a freemium service, basic features are free with advertisements and limited control, while additional features, such as offline listening and commercial-free listening, are offered via paid subscriptions.
Spotify is currently available in 180+ countries, as of October 2021. Users can search for music based on artist, album, or genre, and can create, edit, and share playlists.

1.5 SOURCES

The source of our project (including all the project work, documentations and presentations) is available at the following link https://github.com/abhayxkumar/spotify-clone.

Live Demo Link: https://spotify-web-clone.vercel.app/

CHAPTER -2 SOFTWARE REQUIREMENT ANALYSIS

2.1 HARDWARE AND SOFTWARE REQUIREMENTS

Hardware Requirement

- Processor: Core i3
- Operating System: Windows 7/XP
- RAM: 4GB
- Hardware Devices: Laptop/PC
- Hard Disk: 1TB
- Display: Min. 720p

Software Requirement

- Technology Implemented: Full Stack Web Technologies
- Language Used: HTML/CSS, JavaScript, ReactJS, API
- User Interface Design: Figma
- Web Browser: Google Chrome, Mozilla Firefox

2.2 MODULES AND FUNCTIONALITIES

This project will support on all internet-based devices such as mobile phones, laptop, tablets, etc.

- This project web app is fully responsive for all the type of devices it's a fully responsive web app.
- We will be using Spotify developers' option for original like experience.
- We have used Spotify API to sync user's playlist its account details and make music experience as same as original.

2.3 FEASIBILITY OF PROJECT

This site will provide a real time responsive platform, where a person can create and login his account.

- The person can listen song seamlessly and enjoy their favourite music without any interruption. user can also add their favourite sings in their own playlist fir easy access to music.
- There is no time limit or session login logout, and can enjoy more benefits with premium membership
- The API allow user to get all his playlist songs on our web app by just one tap login, user have agreed Spotify policy and here the user will be good to go with our web app.

2.4 USE OF PROJECT

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BASIC TERMINOLOGY

1. Agile

A is for agile, a major buzzword across the entire tech industry right now. Agile web development essentially refers to a particular way of working, and you'll often hear this term in the start-up world. In an agile team, web developers will work according to weekly or biweekly sprints. A sprint usually consists of five phases: design, develop, test, deploy and review. You can learn more about agile web development in this article.

2. Algorithm

An algorithm is basically a set of steps for carrying out certain tasks. In computer programming, algorithms are a key part of problem-solving. When creating an algorithm, developers will document all the necessary steps it took to arrive at a solution to a problem, and what each step involved.

3. Adaptive design

The way in which a website is built determines how it appears on different devices. Adaptive design creates a website in several different layouts, each suited for different screen sizes. Depending on what device is being used to access the website, the website will adapt and deliver the appropriate layout. See also: responsive design and mobile-first.

4. Bootstrap

Bootstrap is a free, open-source frontend framework for designing websites and web apps. It was developed by Mark Otto and Jacob Thornton at Twitter in order to encourage consistency across internal tools. Bootstrap includes HTML and CSS-based design templates for typography, forms, buttons, tables, navigation, modals and more, plus JavaScript plugins. Check out this beginner's guide to Bootstrap to get you started. See also: frameworks and frontend.

5. Backend

Backend development essentially refers to everything that goes on behind the scenes. What happens at the backend—or server-side—powers what happens at the frontend, i.e., what the user sees and interacts with. Backend development can be broken down into four main components of a software stack: the server, the database, the operating system, and the software.

6. Browser

A web browser is the software used to access the internet and display web pages. When you type a web address or URL into the browser, you are effectively sending out a series of requests. The browser will gather all the different elements that make up that particular webpage, such as images, ads and content, from wherever they are stored (i.e., different directories or servers) in order to display the page that you see. The most common browsers include Microsoft Internet Explorer, Google Chrome, Mozilla Firefox, Safari for Apple, and Opera.

7. Code

Of course, you can't call yourself a web developer until you know what code is! Code is essentially what web developers write using programming languages (scroll down to languages in this glossary!). To see exactly what code looks like, right-click on your internet browser window and click "view page source". You'll then be able to see the code that's behind this particular website.

8. CSS

CSS stands for Cascading Style Sheets. It is a markup language responsible for the visual elements of a website. HTML (another markup language) is used to determine the structure and content of the webpage. Web developers will then use CSS to style this content; in other words, CSS tells the browser how the HTML elements should be displayed.

CHAPTER-4 TECHNOLOGY USED

4.1 WEB DEVELOPMENT

Web development is the work involved in developing a Web site for the Internet (World Wide Web) or an intranet (a private network).[1] Web development can range from developing a simple single static page of plain text to complex web applications, electronic businesses, and social network services. A more comprehensive list of tasks to which Web development commonly refers, may include Web engineering, Web design, Web content development, client liaison, client-side/server-side scripting, Web server and network security configuration, and e-commerce development.

Among Web professionals, "Web development" usually refers to the main non-design aspects of building Web sites: writing markup and coding. Web development may use content management systems (CMS) to make content changes easier and available with basic technical skills.

For larger organizations and businesses, Web development teams can consist of hundreds of people (Web developers) and follow standard methods like Agile methodologies while developing Web sites. Smaller organizations may only require a single permanent or contracting developer, or secondary assignment to related job positions such as a graphic designer or information systems technician. Web development may be a collaborative effort between departments rather than the domain of a designated department. There are three kinds of Web developer specialization: front-end developer, back-end developer, and full-stack

developer. Front-end developers are responsible for behaviour and visuals that run in the user browser, while back-end developers deal with the servers.

But first it would be great to see the two different types of Web Development: -

- **Front-end:** Suppose you want to create a website for your art gallery. So how should the website look? Well, artsy of course!!! And while looking artsy, it should also have all the relevant information about your gallery such as its address, details about your art-pieces, their prices, etc. Are you getting where this is going? Front End web development basically deals with making your website look like it should! This includes all the details of your website that the users will see and communicate with. All those artsy images, live animations, navigation menus, etc. that you add to your website are a part of Front-End web development. So, the better your frontend is, the higher the chances of good user experience (And also of all your paintings selling out!!!) The main technologies required for Front End development are HTML5, CSS3, and JavaScript.

- **Back-end:** Your website about art gallery is doing great and you are getting lots of footfall! Now, what if you also want to sell your artwork on your website rather than just advertising your art gallery? That's not possible using just front-end development as it deals with mostly how a website looks to the users. And this is where comes in to save the day!!!Back-End Web Development deals with the "back-end" of the website that is hidden from the users. It handles all the

complex grimy tasks like data organization and storage and communicates with the front-end to make sure that the site is running smoothly. If any user fills a form in your website or purchases an artwork, the browse basically requests the server-side to process and return the relevant information that is then displayed on the screen using frontend code. There are multiple languages that are used in Back End Development such as Java, Python, PHP, Node JS, etc. While every developer claim that their favourite language is the best, all of these languages have a market demand for suitable projects.

4.3 TOOLS AND LANGUAGES

Tools used to build the Android App are: -

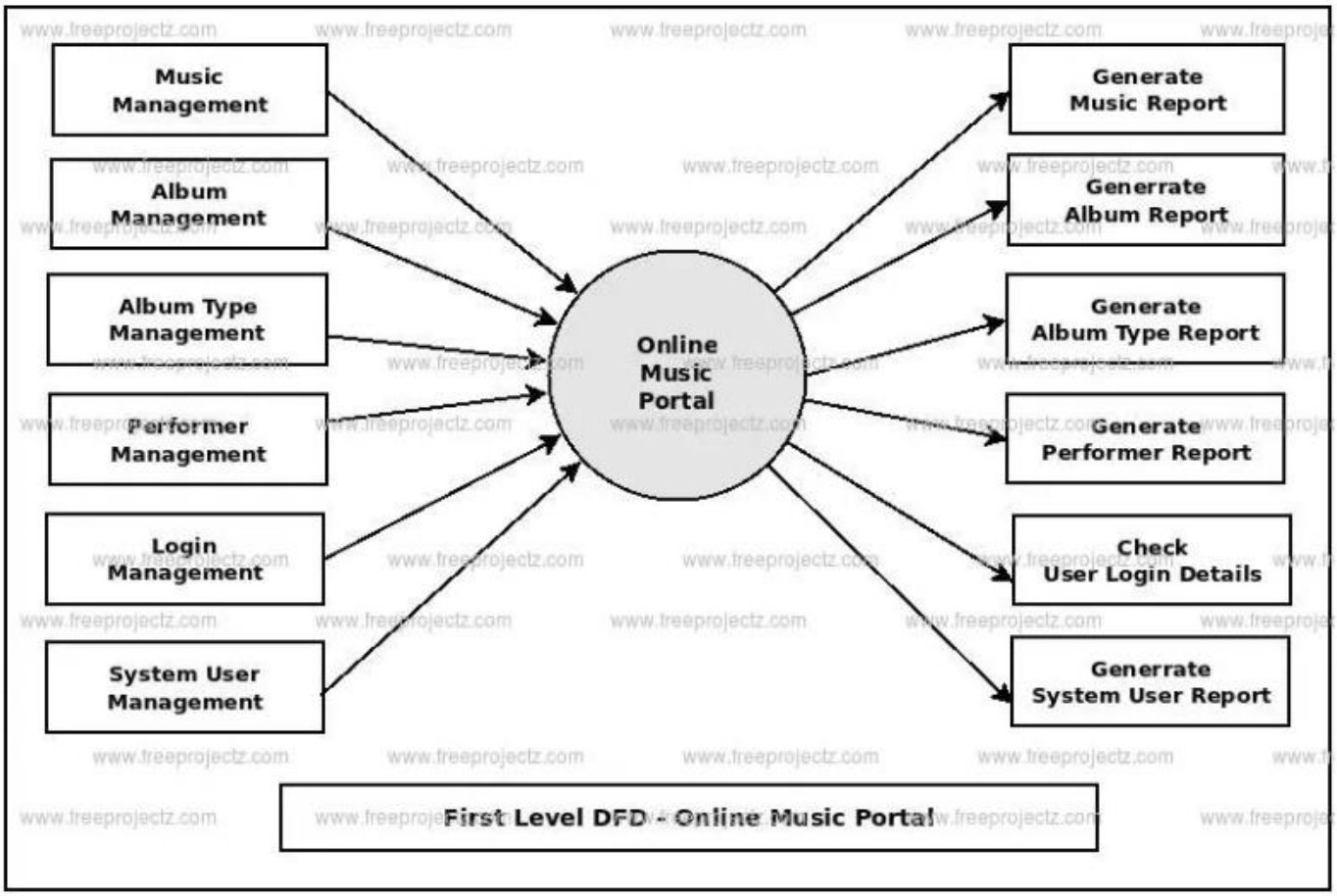
- **VS Code**: VS Code is a source-code editor developed by Microsoft for Windows, Linux and MacOS. Features include support for debugging, syntax highlighting, intelligent code completion, snippets, code refactoring, and embedded git.
-

Languages used in building a Web Application are classified as per the Front End and Back End. For designing the Front End of an application, we have used Html, CSS, JavaScript. and for designing the Back End we have used Firebase, Node JS.

- **HTML:** HTML Hypertext Markup Language is an algorithmic language used to create pages on a computer that can be viewed by viewers / viewers.
- **CSS:** CSS is the language we use to style an HTML document. CSS describes how HTML elements should be displayed. This tutorial will teach you CSS from basic to advanced.
- **JavaScript:** JavaScript is a prototype-based programming language. This programming language came and went on the user's computer.
- **Spotify Developer Option:** API, Database.

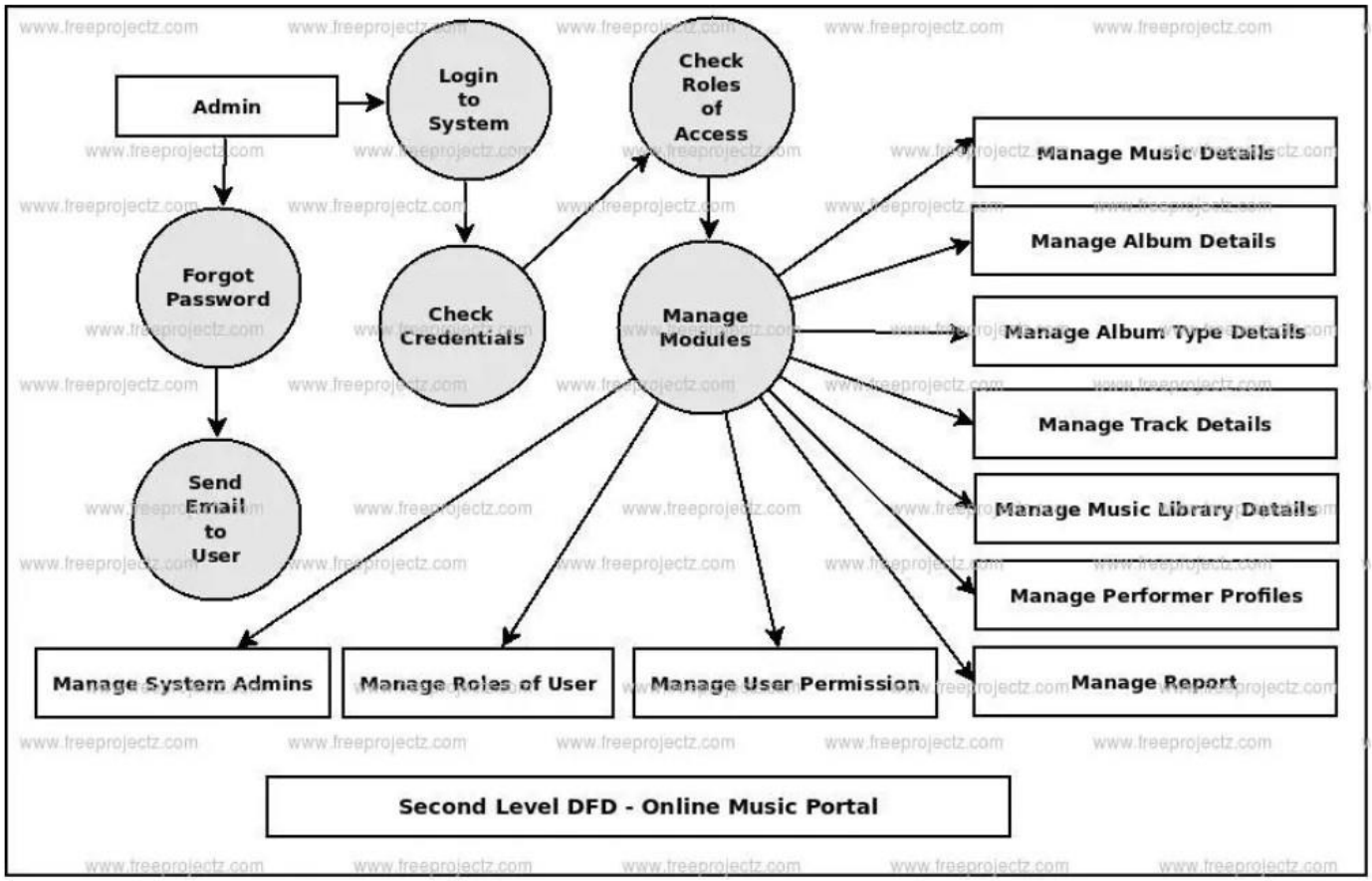
CHAPTER- 5

DFD



- Processing Music records and generate report of all Music
- Processing Album records and generate report of all Album
- Processing Album Type records and generate report of all Album Type
- Processing Performer records and generate report of all Performer
- Processing Track records and generate report of all Track
- Processing Music Library records and generate report of all Music Library

- Processing Singer records and generate report of all Singer

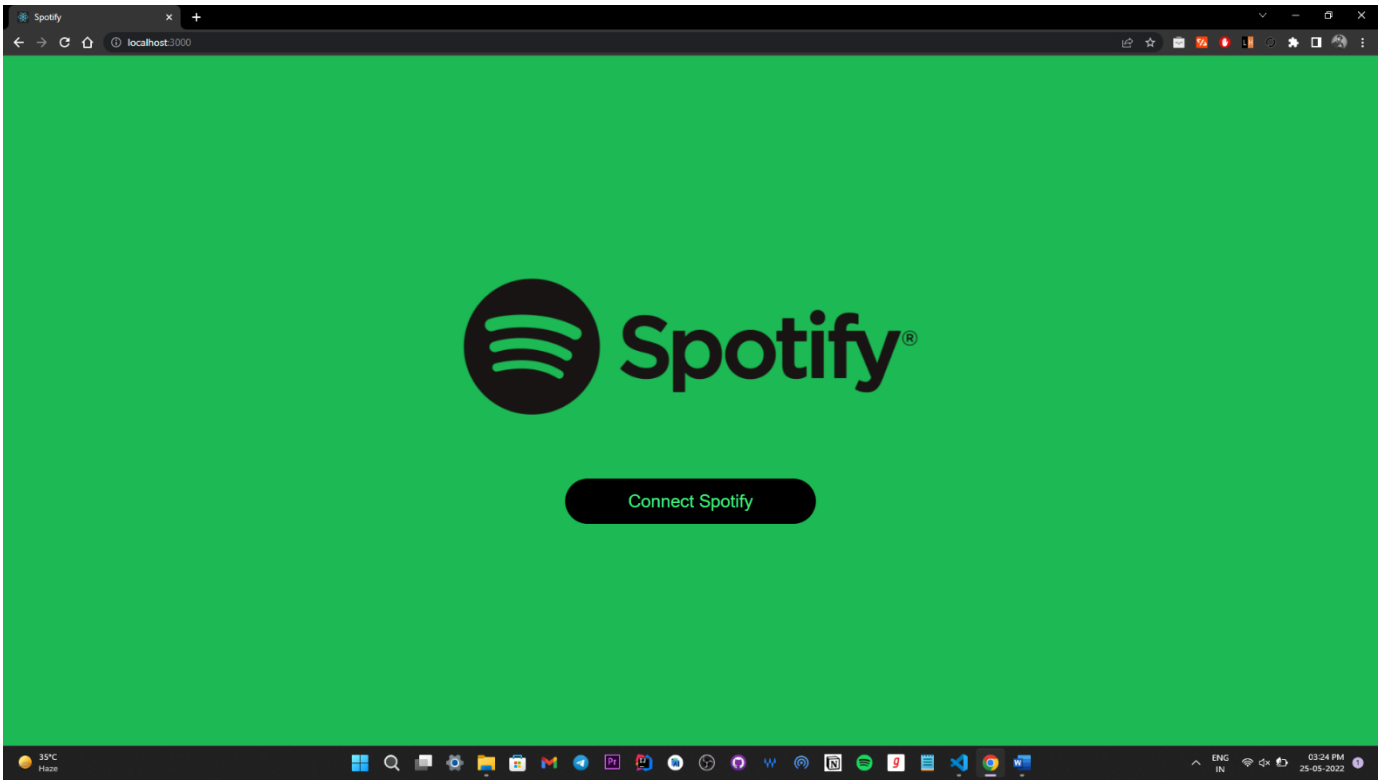


- Admin logins to the system and manage all the functionalities of Online Music Portal
- Admin can add, edit, delete and view the records of Music, Album Type, Track, Singer
- Admin can manage all the details of Album, Performer, Music Library
- Admin can also generate reports of Music, Album, Album Type, Performer, Track, Music Library
- Admin can search the details of Album, Track, Music Library
- Admin can apply different level of filters on report of Music, Performer, Track
- Admin can track the detailed information of Album, Album Type, Performer, Track

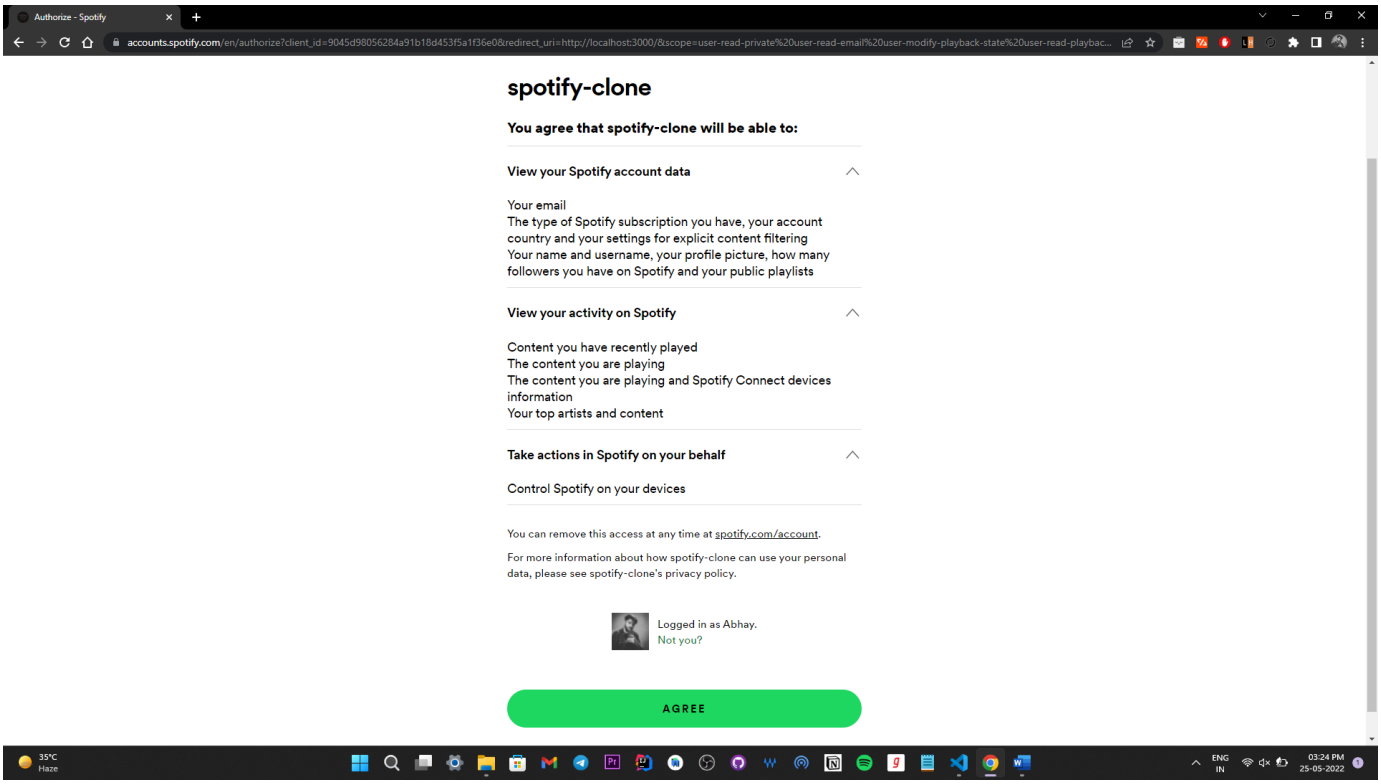
CHAPTER – 6: IMPLEMENTATION AND USER INTERFACE

6.1 User Interface

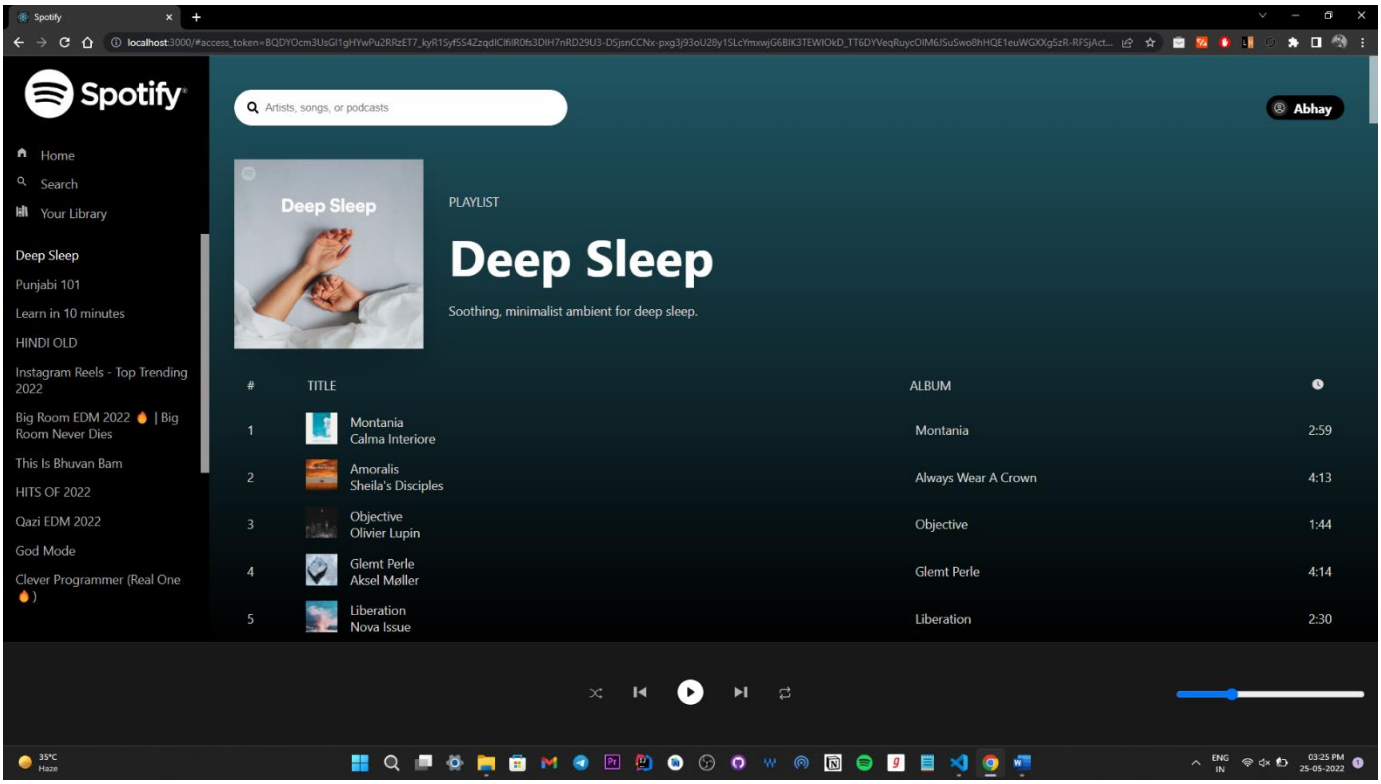
Login Page

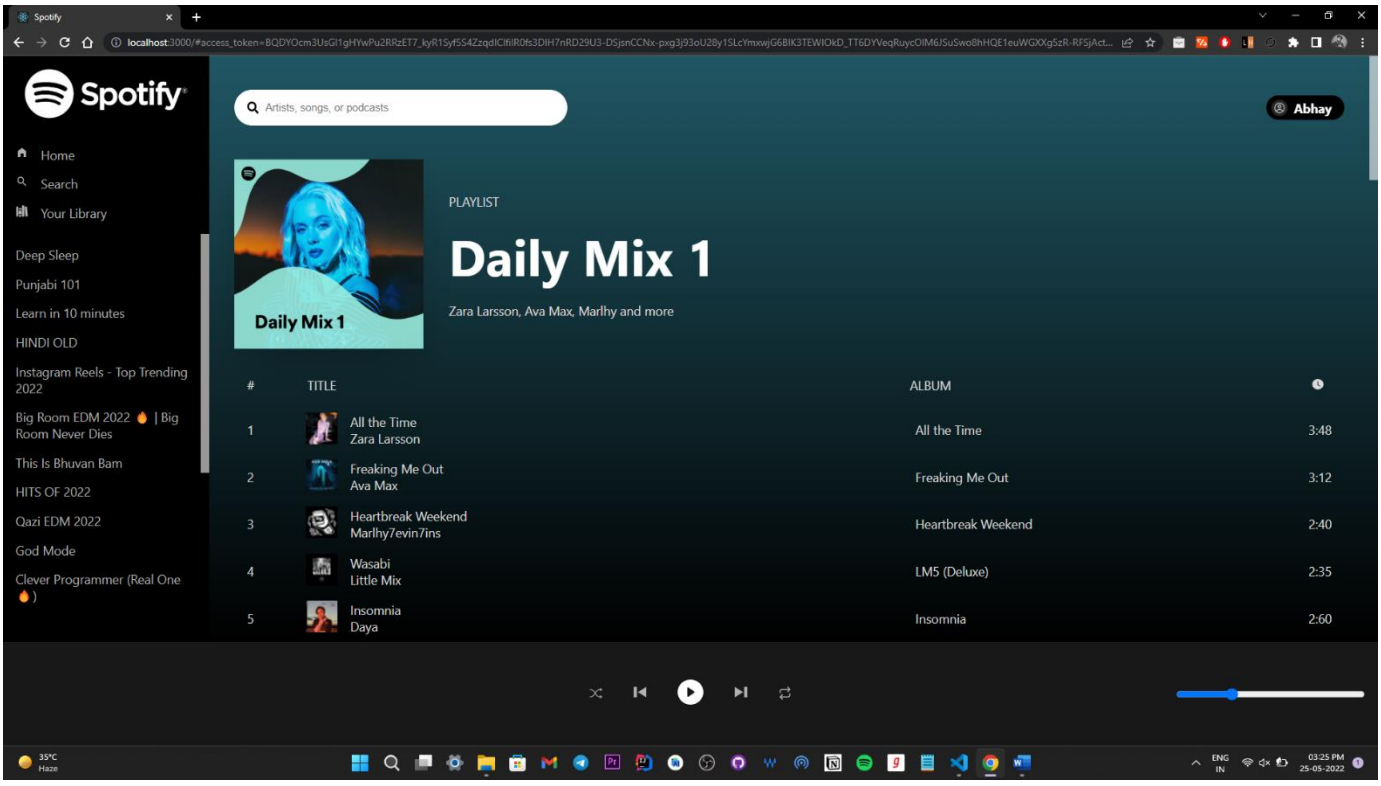


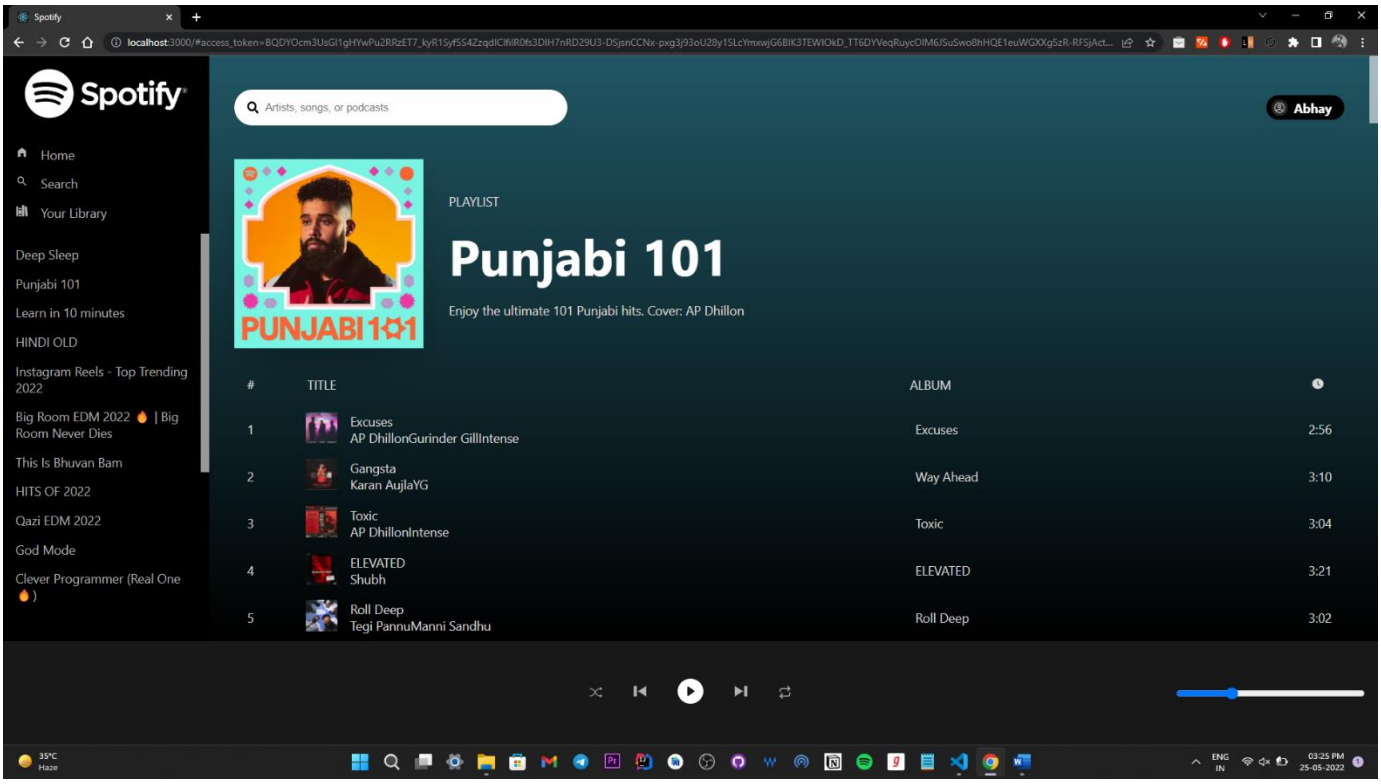
T&C Agreement Page



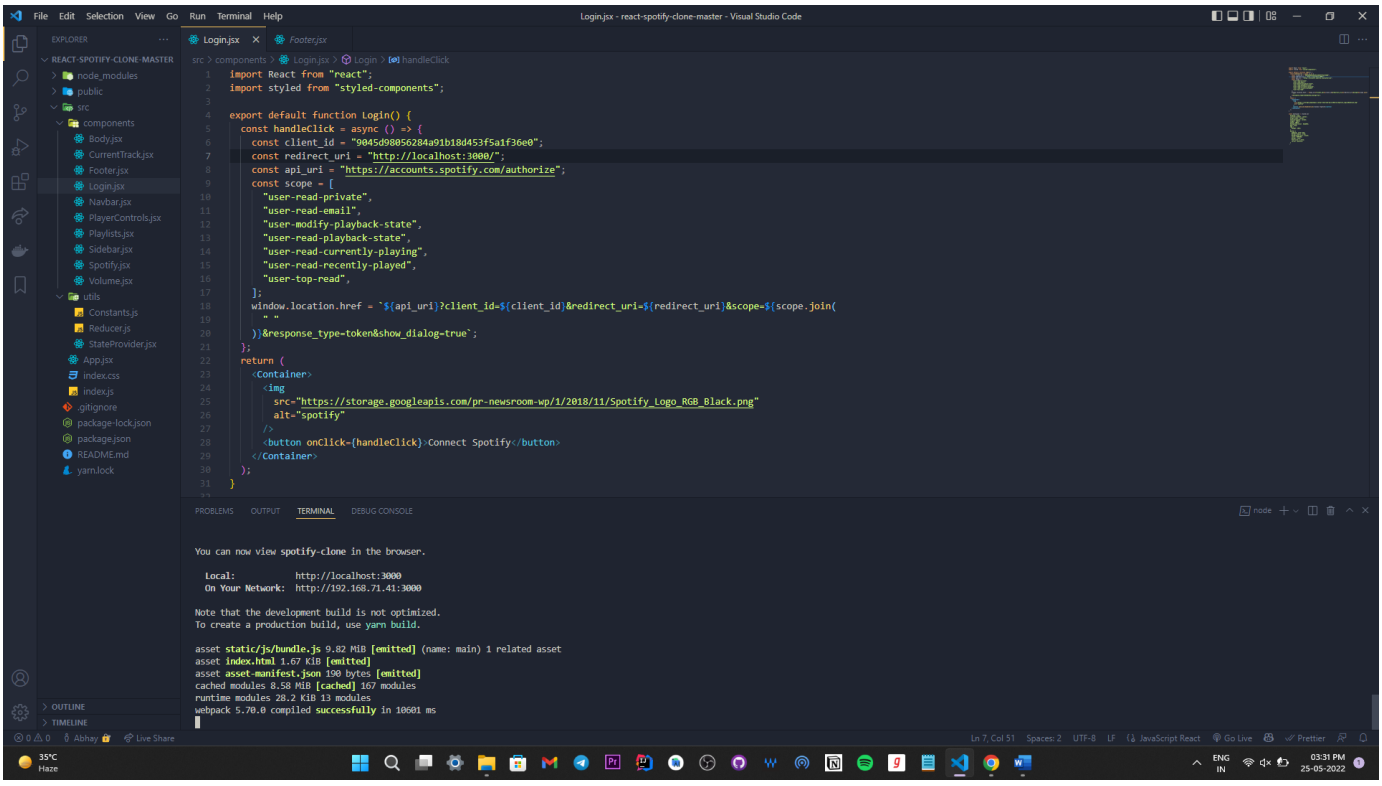
Playlists Pages






Spotify
Artists, songs, or podcasts
Abhay
Home
Search
Your Library
Deep Sleep
Punjabi 101
Learn in 10 minutes
HINDI OLD
Instagram Reels - Top Trending 2022
Big Room EDM 2022 | Big Room Never Dies
This Is Bhuvan Bam
HITS OF 2022
Qazi EDM 2022
God Mode
Clever Programmer (Real One)
PLAYLIST
Punjabi 101
Enjoy the ultimate 101 Punjabi hits. Cover: AP Dhillon
TITLE ALBUM
1 Excuses AP DhillonGurinder GillIntense Excuses 2:56
2 Gangsta Karan AujlaYG Way Ahead 3:10
3 Toxic AP DhillonIntense Toxic 3:04
4 ELEVATED Shubh ELEVATED 3:21
5 Roll Deep Tegi PannuManni Sandhu Roll Deep 3:02

Code Editor


Login.jsx - react-spotify-clone-master - Visual Studio Code
import React from "react";
import styled from "styled-components";
export default function Login() {
const handleClick = async () => {
const client_id = "9045d98056284a91b18d453f5a1f36e0";
const redirect_uri = "http://localhost:3000/";
const api_uri = "https://accounts.spotify.com/authorize";
const scope = [
"user-read-private",
"user-read-email",
"user-modify-playback-state",
"user-read-playback-state",
"user-read-currently-playing",
"user-read-recently-played",
"user-top-read",
];
window.location.href = `${api_uri}?client_id=${client_id}&redirect_uri=${redirect_uri}&scope=${scope.join(
" "
)}&response_type=token&show_dialog=true`;
};
return (
<Container>
<img
src="https://storage.googleapis.com/pr-newsroom-wp/1/2018/11/Spotify_Logo_RGB_Black.png"
alt="spotify"
/>
<button onClick={handleClick}>Connect Spotify</button>
</Container>
);
}
You can now view spotify-clone in the browser.
Local: http://localhost:3000
On Your Network: http://192.168.71.41:3000
Note that the development build is not optimized.
To create a production build, use yarn build.
asset static/js/bundle.js 9.82 MiB [emitted] (name: main) 1 related asset
asset index.html 1.67 KiB [emitted]
asset asset-manifest.json 190 bytes [emitted]
cached modules 8.58 MiB [cached] 167 modules
runtime modules 28.2 KiB 13 modules
webpack 5.70.0 compiled successfully in 10601 ms

CHAPTER 7: REFERENCES

- https://developer.spotify.com/
- YouTube
- https://reactjs.org/docs/getting-started.html