ACM Web Development IV

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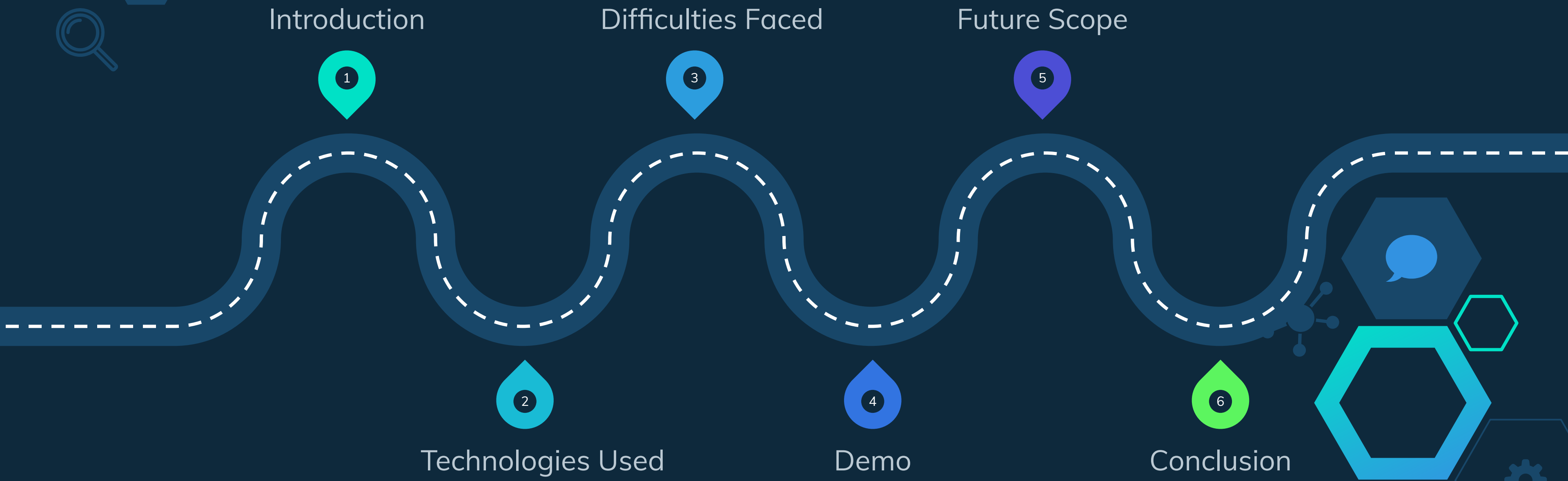

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Introduction

Description: Making a Single Page Application (SPA) clone of a music streaming site (Spotify) and extracting real time information using the spotify API.

Cloning is the process of creating a replica of an existing website design.

Single Page Applications means that it only loads a single web document, and then updates the contents of that document by fetching information.
SPA offer a much better user experience(UX) as compared to multiple Page Applications meaning the users can navigate easily between different pages of an app without waiting for the pages to load up .

What is in this project:

1. User Authentication
2. Spotify API
3. Material UI Icons
4. React Context API
5. Deployment in firebase
6. Made the website responsive

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Technologies Used

React is a free and open-source front-end JavaScript library for building user interfaces based on UI components.

We can create reusable components which means less coding and more functionality

Firebase is a platform developed by Google for creating mobile and web applications.

Firebase provides tools for tracking analytics, database management fixing app crashes, creating marketing etc.

Difficulties faced

Using the Spotify-Web-API

I had to learn how to use the spotify API in this project which allowed me to connect to the spotify services in an easy way for the user authentication, and to get real-time information about the user for example: the playlists and all the songs that the users listens to.

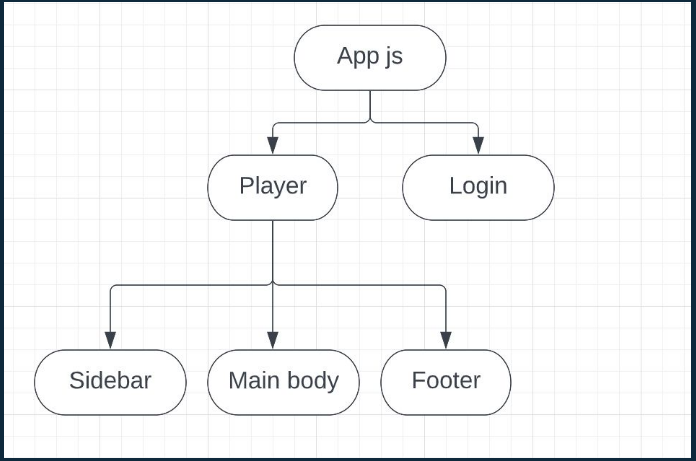
Firebase Deployment

Firebase was completely new to me, it took quite a lot time and effort to fully understand what exactly happens when you deploy the website and what all beneficial features firebase has to offer.

Prop Drilling and Access Tokens

Prop Drilling is term for passing data through several nested children components, in a bid to deliver data to a deeply-nested component.

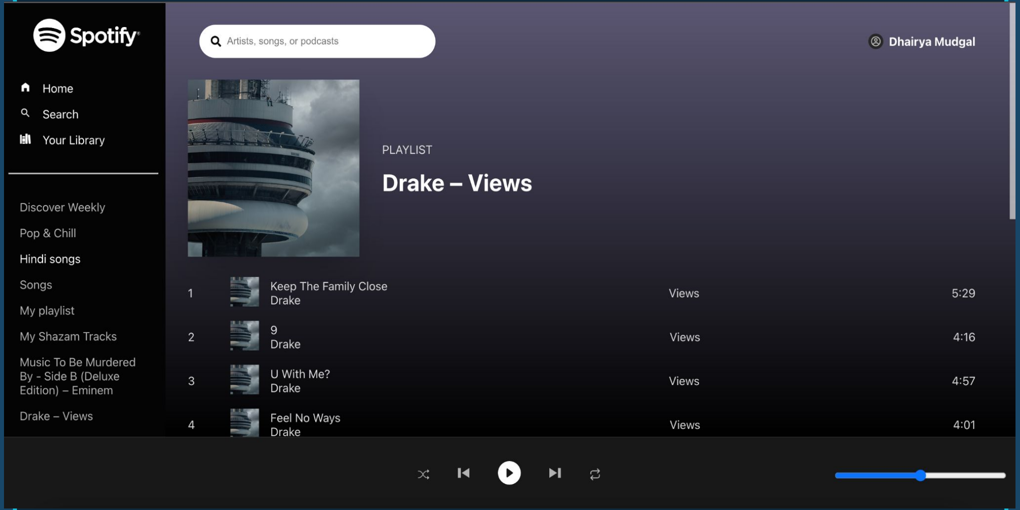
To overcome this i used context API and added DataLayers



Tokens allow users to access the application without having to enter their login credentials every time they visit the website.

After a user successfully authenticates they receive an access token, the next step was to extract the token and using it to render the player page by using the spotify-web-api-js which is a client side JS wrapper for the spotify web API

Demo



Spotify

Artists, songs, or podcasts

Dhairya Mudgal

- Home
- Search
- Your Library

Discover Weekly
Pop & Chill
Hindi songs
Songs
My playlist
My Shazam Tracks
Music To Be Murdered By - Side B (Deluxe Edition) – Eminem
Drake – Views

PLAYLIST

Drake – Views

1	Keep The Family Close Drake	Views	5:29
2	9 Drake	Views	4:16
3	U With Me? Drake	Views	4:57
4	Feel No Ways Drake	Views	4:01

Future Scope

Enhancing the website by adding the feature of searching songs, and a method to show lyrics of the song which is currently being played, which can be done by further understanding and using the spotify API

We can use machine learning to add another feature in this project which suggests new songs to the user based of the type of songs they most listen to

We can add another feature which allows users to download songs which will allow them to listen to songs even when they are not connected to the internet

Adding a method of payment for spotify premium

Conclusion

This project gave me an opportunity to learn ReactJs and FIrebase and various other technologies.

Learning and implementing the Spotify API gives me the confidence to use other powerful api like google map api , twitter api etc, or even make my own api to create new useful projects.

Having now understood the true advantage of using firebase like Fast & Safe Hosting, Free authentication, Reliable & Extensive Databases, Google Analytics and many more, it will definitely help to advance my future projects.

Thanks!

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