Project Synopsis

On

Coder’s House

Real Time Podcast Application

Submitted in the fulfilment of the requirements for the degree

Of

Bachelor of Technology

In

Computer Science Engineering

DRONACHARYA GROUP OF INSTITUTIONS GREATER NOIDA

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ABSTRACT

This is a Real Time web based application for Podcast developed for community of Software developers, where users can listen or share their opinions on particular topic such as AI is Future, What’s new in Machine Learning etc.

Podcast basically means Listening to an audio content, it can be related to education, sports, Technology etc.

Podcast Application for developers, here they can listen about various established or new upcoming technology to excel their knowledge.

This is also beneficial for students as for them they can directly listen to senior developers their career guidance, roadmaps and resolve their doubts.

Project is consist of complex architecture for authentication, real time connection for voice transfer, webRTC and user follower system.

INTRODUCTION

2020 And 2021 is tough for us as People have spent most of their time in their house. People had to adapt new way living to keep moving forward like work from home, online interview and many more people start spending their time on smart phones scrolling on social media, between all these a new trend of listening podcast takes place more people start listening to podcast to excel their knowledge.

This is why I choose to develop a real time web based podcast application for coders or software engineers as my major project.

Real Time web based application for Podcast developed for community of Software developers, built using MERN stack consist of various features, Users can listen or share their opinions on particular topic like AI is Future, What’s new in Machine Learning etc.

Features

1. Registration/Login

- Registration is done using either phone number or email address.
- User can login using OTP.
- OTP will be sent on phone number or email address.
- User can logout using logout button.

2. User Profile

- User can create their profile by adding Username and Profile Picture
- User have user profile page, any authenticated user can visit this page and follow that user.
- Users have follower and following count on the profile page.

3. Rooms

- Authenticated User can see list of available public rooms
- User can filter rooms using search box
- User can join existing room or create a new room
- Creator of the room can add other users as speakers
- Rooms Are of Two types :
  - Public Room:
    - Any Authenticated user can see this and can join that room.
  - Private Room:
    - This is the closed room and can be joined only through the link.

4. Room

- Room will have 2 types of users
  - Speakers : People who give podcast (they can mute/unmute themselves)
  - Listeners : People who listen podcast (their mic is muted by default)
- Any User can leave the room
- Speaker can choose their mic from available devices.
- Creator of the room can delete the room.

TECHNOLOGY STACK USED

1. Frontend :

- HTML5
- CSS3
- React JS : used for developing various components
- React Router : used for Navigation through different components and for Protected routes
- Redux : used for State Management
- Axios : used for Fetching data through the API endpoints.

2. Backend :

- Node JS
- Express JS
- JSON Web Tokens (JWT) for Authentication
- Real Time Communication

  a) Web Sockects (socket io) : used for signaling establishing real time connection.

  b) WebRTC : used for establishing Peer to peer connection so that different browsers can transfer voice stream in real time.

3. **Database :**
    - MongoDB

4. **Git/Github :** used for version controlling.

5. **Docker :** used for containerizing the application so that it may run on different hardware.

FUTURE UPGRADATION

1. Text Messaging
2. Video sessions
3. Screen Sharing
4. Store Session Recording
5. Download Audio Session