<div align="center">Project Report: Audio Rooms</div>

Achyuth Kumar Guduri
Shetty Disha Dinesh
Chetan Kumar Nageshwarrao Chitturi
Gowtham Kumar Solleti

Introduction:

An audio room is a virtual space where users can communicate with each other using audio channels over the internet. It is a type of online meeting place where people can have discussions, collaborate, and exchange ideas without being physically present in the same location. In a cloud computing context, the audio room can be hosted on a cloud server, making it easily accessible from anywhere in the world, provided there is an internet connection. This technology is becoming increasingly popular in the era of remote work, as it allows teams to work together and communicate effectively without the need for physical meetings. In this project, we will explore the various components required to build an audio room in the cloud, including audio codecs, network protocols, and server architecture.

Objectives and Goals:

The objectives and goals of an audio room can vary depending on the specific context and requirements of the project. However, some common objectives and goals are:

1. Providing a virtual space where users can communicate with each other using audio channels over the internet.

2. Enabling remote collaboration and communication between team members or participants in a meeting or event.

3. Supporting real-time audio streaming, voice conferencing, and audio recording capabilities.

4. Ensuring high-quality audio transmission with low latency and minimal loss of audio data.

5. Offering features such as muting, hand-raising, chat, and screen sharing to enhance the user experience.

6. Providing secure and scalable audio communication services that can handle a large number of users simultaneously.

7. Integrating with other cloud-based tools and services, such as video conferencing platforms, messaging apps, and project management software.

8. Meeting the specific needs and requirements of the users and stakeholders, such as accessibility, privacy, and ease of use.

By achieving these objectives and goals, an audio room can facilitate effective communication, collaboration, and productivity among remote teams and participants, leading to improved outcomes and results.

Significance of Audio Rooms:

Audio rooms are becoming increasingly significant due to several reasons. Here are some of them:

1. Remote Work: With more and more people working remotely, audio rooms provide a way for teams to collaborate and communicate effectively without being physically present in the same location.

2. Global Connectivity: Audio rooms are accessible from anywhere in the world, making it possible for people to connect with each other across different time zones and geographic locations.

3. Cost-effective: Audio rooms are generally less expensive than traditional physical meetings, as they eliminate the need for travel, accommodation, and venue rental costs.

4. Improved Communication: Audio rooms allow participants to communicate in real-time, which can improve the efficiency and effectiveness of communication compared to asynchronous methods like email or messaging.

5. Enhanced Collaboration: Audio rooms offer a virtual space where team members can work together on projects, share ideas, and provide feedback, which can enhance collaboration and creativity.

6. Flexibility: Audio rooms can be customized to meet the specific needs and requirements of the users and stakeholders, providing flexibility and adaptability in various contexts.

7. Scalability: Audio rooms can handle a large number of users simultaneously, making them suitable for both small and large-scale meetings or events.

Overall, the significance of audio rooms lies in their ability to provide a seamless and accessible platform for remote communication and collaboration, enhancing productivity, and fostering teamwork.

Progress Report:

Our team till now has implemented the application side – i.e. we have started with the UI end with the help of ReactJS.

Below are the snippets:
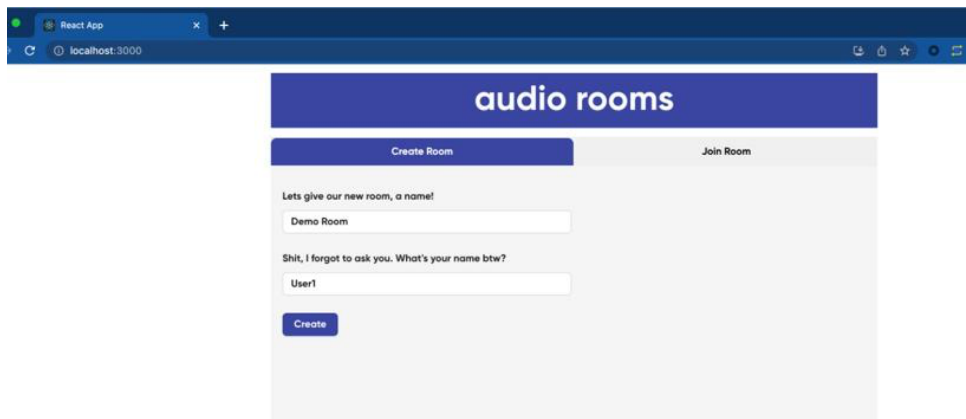
The above snippet says that a user can create a room name (mentioned as Demo Room) and the user can set the name under the Create Room section. Once the Room ID is generated another person can check from the Join Room section and enter the Room ID and the username he/she wishes to add. (Refer the below screenshot). Once the user enters the room, they can see the participants who are already present in the room.
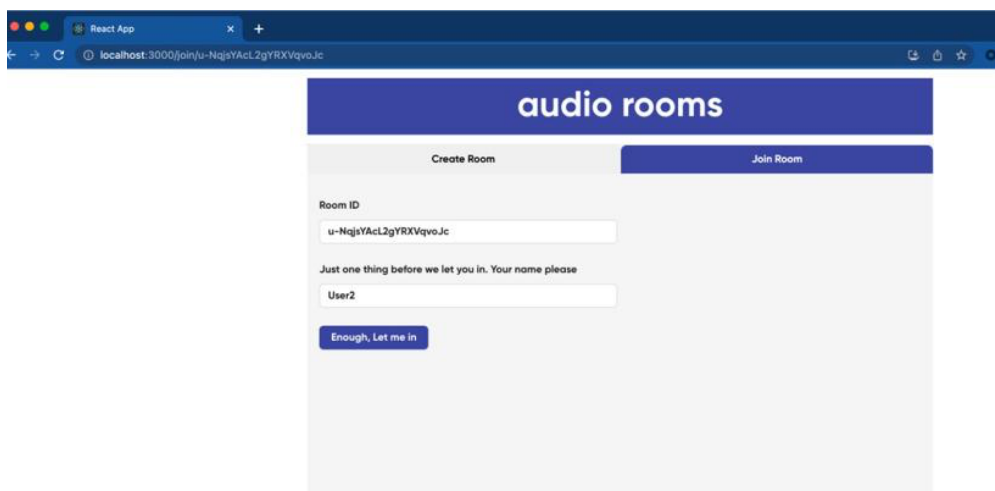
The host can also invite other users who wish to enter the audio room with the help of the room id.
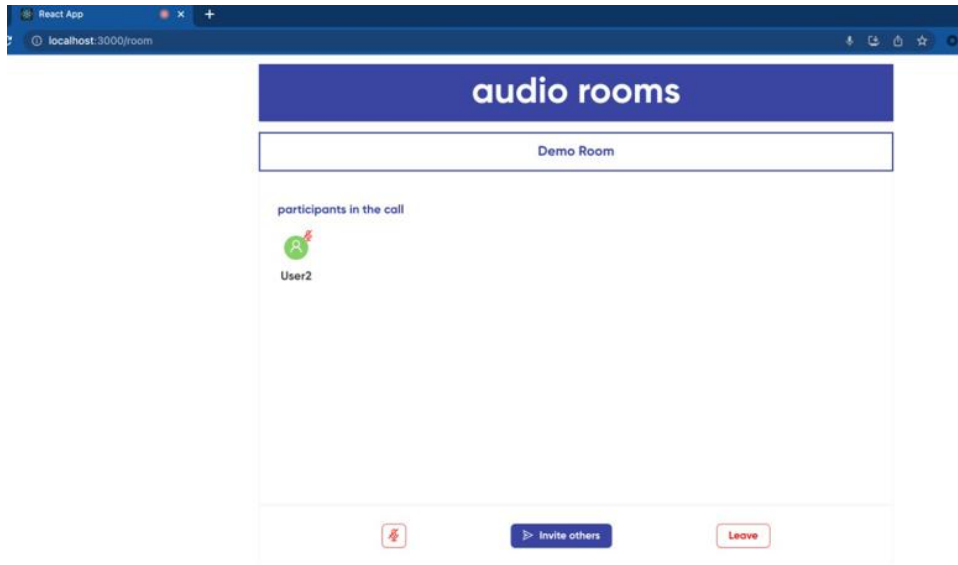
Next part is w.r.t to the cloud services which we want for deployment end. We are using application as a container and use this process of making images.

We have the docker images ready and create an elastic container instance which will contain the docker images and we will configure Elastic Kubernets Service where it is used to maintain the containers.

Conclusion:

In conclusion, audio rooms are an important component of cloud computing projects, providing a virtual space where users can communicate with each other using audio channels over the internet. They offer several benefits, including remote collaboration, cost-effectiveness, improved communication, and enhanced collaboration. The development and implementation of audio rooms as a cloud computing project require careful planning, technical expertise, and user-centered design. Tracking and measuring the progress of the project through KPIs, milestones, user testing, and user feedback can help ensure that the audio room meets the needs of its users and stakeholders. With the continued growth of remote work and global connectivity, audio rooms are expected to play an increasingly significant role in facilitating effective communication and collaboration among teams and participants.