

Live Deck

Sanyukta Shende¹, Piyush Rahangdale², Anuj Mohatkar³, Rewanshu Bopapurkar⁴, Parth Narnaware⁵,
Prof. Vaishnavi Ganesh

Department of Computer Science and Engineering
Priyadarshini College of Engineering, Nagpur, India

Abstract – When it comes to online learning, massive open online course(MOOC) plays an important role. MOOC not only provides online education but it makes sure that the education is accessible to anyone, anytime and anywhere. But usually, online learning platforms comes up with the discussion section within their platform. These discussion sections are chat based. On the other hand, online learning platforms also schedule discussion sessions with the tutor. So one can ask doubt, discuss query etc. But these facilities of discussion have some limitations. The fixed timing of the discussion session by the tutor, the discussion section in platform have common interface for various domain of query and many more. We are developing a platform which will follow the philosophy of MOOC that is the discussion will be accessible to anyone, anytime and anywhere. The platform works as, LiveDeck will contain specific discussion rooms based on queries. One will be able to create a query/discussion room in two options (public or private). Not only this, the application will have an option to join a discussion room. The discussion room will also have voice facilities such as speaker, mic, mute, unmute. The user will be able to create account, join or make discussion room, ask queries or help others, leave the room, checking profile of others, one to one communication etc.

I. INTRODUCTION

This app will be especially developed for people who are using online learning platform. Online learning platform delivers knowledge through its student focused learning environment by providing affordable courses. Along with learning, platform provides the peer-to-peer interactivity on its own application with anyone who is keen to learn. Aspirants are free to share their experiences and doubts on the platform. So, our idea is to enhance their discussion interactivity in a more efficient way. We decided to build a web-app for them in order to be able to give them a separate platform where they will be able to discuss their doubts & experiences.

This web-app will consists of live audio rooms. Learners will be able to join an ongoing voice discussion depending on which topic they want to join. We have built a helping platform where anyone can discuss doubts rather than discussing it via chatting. We started with the idea of what the app will contain besides a discussion app. In common conference or discussion app there are limitations which one could face while using the apps such as in Google meet[9] if one person wants to have a discussion on something they must provide separate links to the people. Therefore to make a different app and overcomes such limitation we are including availability of rooms of specific topics for discussion. There will be rooms of specific topic and one can join the room as per their choice without having to send links specifically, one will have to simply create account and join the room. Not only this one will be able to create rooms and make it public and private too.

“Livedeck”: is easy to use discussion platform which saves time by interacting through voice rather than typing the discussion. It also allows user to join live discussion rooms based upon their query.

II. LITERATURE REVIEW

From the very beginning of the web-app development, the research of which technology to use was discussed. After analysing trends, the REACT [1] was the best fitted for the web-app development. After going through the features of react, the best suited stack for development was MERN STACK [2]. MERN stands for MongoDB, Express, React and Node. The working of all backend technologies together has made the LiveDeck follow the code trends such as code reusability, virtual DOM etc. The main challenge was to make the app which will be able to have the voice interaction functionality. The LiveDeck consists of voice communication. Since, LiveDeck is a web-app and not an application, the connection must be established through web connectivity. This is done by following the module WebRTC(Web Real Time Communication) Session Establishment [3].

III. PROBLEM DEFINITION

The learners are discussing their doubts and questions on only one platform with massive community. There are several disadvantages when a community interacts only on one platform especially learning community where everybody has topics to share, discuss and helping hand. The main disadvantages of communicating on a single platform are as follows:

1. A community discussing in one platform can create confusion amongst learners since ones way of giving solution differs from others.
2. Flexibility of exploration for discussions is not available when there is no specific platform.

To overcome these disadvantages, we came to a conclusion that we are requiring a discussion platform for learners. In common conference or discussion app which are already present in the market, there are various problems such as generating specific link for only one type of discussion, furthermore conference apps have the feature of video whereas a minimalistic discussion app would only need voice to discuss.

The main requirement is to build an discussion app which gives enough flexibility to learners to learn about various topic discussion and share their doubts and solution to each

other separately without interrupting conversation of others. This can be done by separating discussions and making use of platform account generation instead of links or any other invitation source.

IV.OBJECTIVE

The objectives of the LiveDeck Web-App are as follows:

- The main objective is to study the downside of discussion section in learning platforms.
- The aim is to let the learners decide which discussion they want to join, and built separate discussion panels based on query or topic.
- Moreover, to enhance the accessibility and improving collaboration by integrating voice based functionalities.
- To let the user have enough security to choose whether the discussion can be private or public by accepting or rejecting request.
- To enhance the discussions by giving user all the control and choice over a discussion

V.IMPLEMENTATION

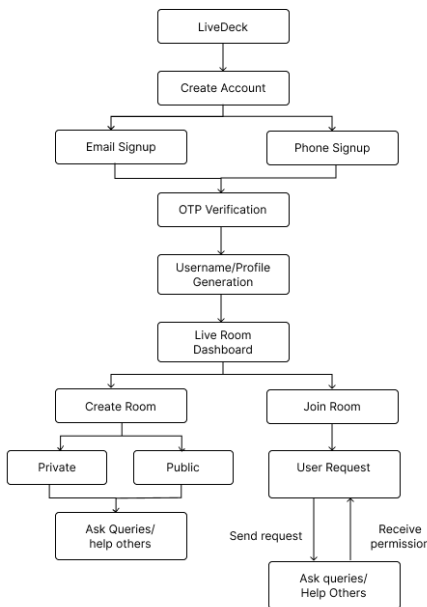
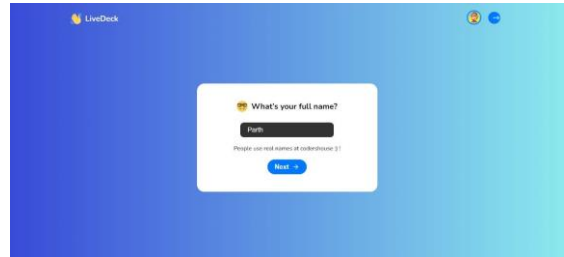
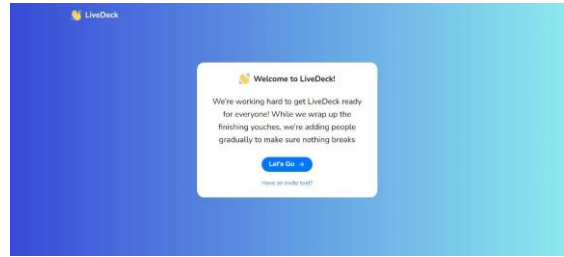


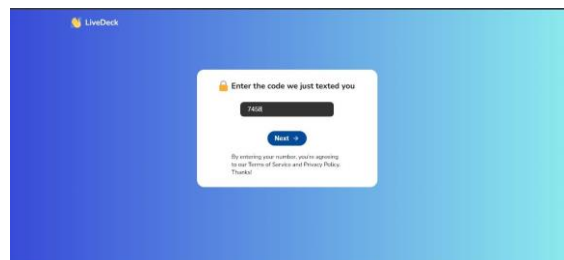
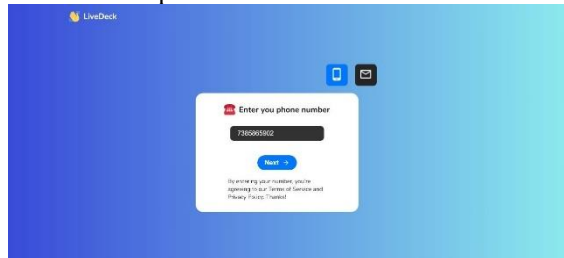
Fig. Flow of LiveDeck Web-App

The UI design phase includes of how the app will look, researching how the theme should give the feel of discussion app, UI design idea specification , the basic template of how app will look, which information will be shown, headings , title names, deciding specific information content which needs to be shown. The structure of the web-app includes the basic and core page building. In designing phase, all the decisions of how the finalised app will look has been taken. To actually make that decisions working, the structure of the web app comes into picture where design is coded in such a way that there is a basic layout ready. This structure is built using HTML, CSS, and REACT. After coding the basic structure of the web-app, the login system is created using account creation techniques and

database is generated based on the flow of the user information. The user will be shown a page of create account.



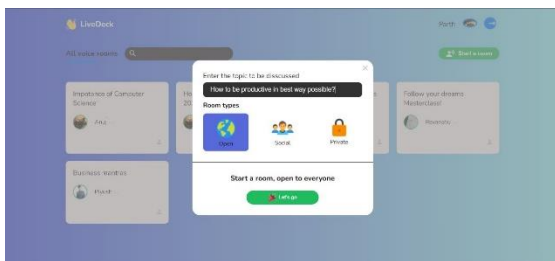
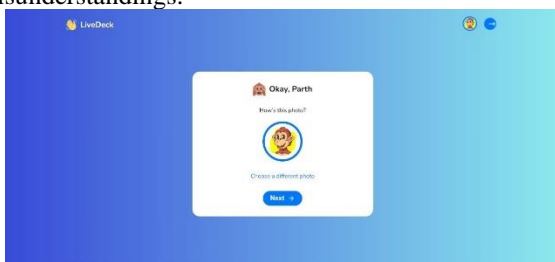
The user will be shown a page of create account. The account creation is mandatory for the learner to access the application. The creation of the account consist of two options via Email signup or Phone signup. If user chooses Email signup the OTP (one time password) will be generated and sent to the entered email. If user chooses phone signup then OTP is sent to registered phone number via SMS. After OTP generation OTP verification takes place.



Now that we have the backend information, we will be integrating room joining functionalities. We will allow user to join the room and we will create a separate connection between user and database in such a way that when the user joins specific room, the information will be saved in database. The flow of room joining information is as when a user tries to join a room , which room he/she is joining and based on that the get and post request functionality is invoked just to let the user know about who and which

person is joining the room. The room creation is a long process in the backend due to saving the users information in the database, using cookies and processing it. For e.g. Keeping track of who is creating room at what time with which title name.

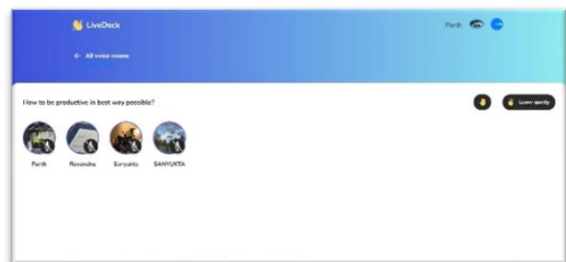
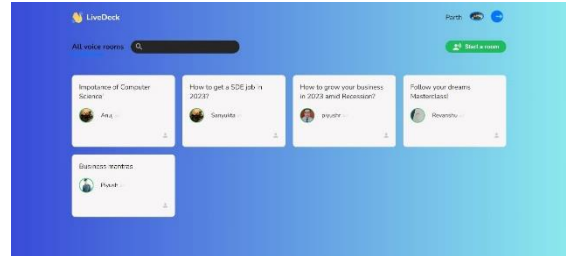
As one is able to join the room, one can also create a room in the platform with the help of which user can have discussion on the platform. The topic must be entered by the user and the room privacy will be specified such as private or public room. For discussion, we have integrated mic and speaker functionalities which is the main part of the web-app development. These voice functionality allows for hands-free communication, making it convenient for people who are busy with other tasks. It also eliminates the need for typing, reducing the chances of typing errors and misunderstandings.



The user will be able to join and leave room as per their needs. But updating the database is important since one account can only enter in one room and if the database is not updated while he/she left the room he/she will not be able to join other rooms since the entry would be made in the database as the user is in some other room already. As one can check other users profile page, he/she can update their profile picture with the help of the dashboard where there will be several options like followers, recent updates made by the profile, their information and bio etc.

VI. RESULT

The development and deployment of the audio-only chat application, LiveDeck, is a useful web-app for communicating and discussing that allows teachers, students, learners or mentors to join different rooms, each dedicated to a specific topic as determined by the room creator.



Upon gathering feedback, it was found that the LiveDeck application improved the overall communication experience between different community individuals. The audio-only format was found to be more engaging and personal compared to traditional text-based communication methods. Moreover, the dedicated rooms for specific topics ensured that discussions were more organized and focused, leading to a more productive learning experience for students.

Additionally, the LiveDeck application proved to be more accessible for learners, as it eliminated the need for an attentive typing action for text-based communication and allowed for seamless communication through just a microphone. This proved to be particularly beneficial for students who may not be available to type or have disability but still wanted to participate in class discussions.

VII.CONCLUSION

LiveDeck is a voice-based group chat app that provides a convenient and effective way for students to communicate and collaborate with their peers. With its audio-only format, LiveDeck offers a range of advantages compared to traditional text-based chat apps and video conferencing tools. LiveDeck also provides enough flexibility to users to join different discussion rooms depending on the choice and need of their own.

One of the key benefits of LiveDeck is its simplicity and ease of use. Unlike video conferencing apps, which can be complex and overwhelming for some users, LiveDeck's audio-only format is straightforward and intuitive. This makes it easy for students to use and navigate, which can be particularly useful for those who are new to using group chat apps.

In addition to its simplicity, LiveDeck offers greater accessibility compared to other group chat apps. Its audio-only format can be more accessible for students with visual impairments or other disabilities, which can help ensure that all students are able to participate in group discussions and stay connected with their peers.

VIII.FUTURE SCOPE

If LiveDeck is to reach a huge user base, it is likely have a significant impact on the way students and other learners to communicate and collaborate. With such a large user base, the app have a lot of potential for growth and development, and could potentially become an integral part of the various learning platforms. Some possible future directions for the app could include expanding its capabilities to include additional features and tools, such as document sharing and collaboration, as well as integrating it with other services that students may find useful. Additionally, the app could potentially be used as a platform for hosting virtual events, such as guest lectures or workshops, which could be a valuable resource for learners. Ultimately, the future scope of LiveDeck will depend on its ability to continue evolving.

IX.REFERENCES

- [1] Prateek Rawat, Archana N. Mahajan "ReactJS: A Modern Web Development Framework", November 2020
- [2] Yogesh Baiskar, Priyas Paulzagade, Krutik Koradia, Pramod Ingole, Dhiraj Shirbhate, "MERN: A Full-Stack Development", January 2022
- [3] Zinah Tareq Nayyef, Sarah Faris Amer, Zena Hussain, "Peer to Peer Multimedia Real-Time Communication System based on WebRTC Technology", February 2019
- [4] Ethan Brown "Web development with node and Express", June 2017
- [5] Ghansham Jadhav, Flavia Gonsalves, "Role of Node.js in Modern Web Application Development", June 2020
- [6] F.M. Dahunsi, A. J. Joseph, O. A. Sarum, O. O. Obe "Database Management System for Mobile Crowdsourcing Applications", October 2021
- [7] Luqun Li "Real Time Communication Application on Android Platform", February 2019
- [8] Shally Singh Aujla , Gagangeet Singh Aujla "A Review of one time password mobile verification", June 2014
- [9] Pedroso, John Erwin P., Tubola, Laura Fe A., Mamon, Edcelle Jhon M., Sencida, Ma. Alluiza Joy D "Google Meet: An Online Platform for Class Discussion", June 2022