

## INTEGRABLE VIDEO CONFERENCING APP

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### ABSTRACT

Integrable video conferencing application can be modified as per user need. No user details or login credentials are required, our app can use existing app's authentication to identify the user and their information. Our users can join using the meeting using code or create a new meeting easily. Here there are two major roles: moderator and Listeners. Moderator has control over the Meeting, they have access to remove listeners or introduce another moderator. Other special features like accept the listeners, draw in whiteboard access, record the meeting, download the chat etc. Video Conferencing app has taken over the modern world. The use-age of video conferencing app has gone up. Video conferencing boosts productivity, saves time, reduces travel expenses, and overall promotes collaboration. The advantage of video conferencing is the ability to facilitate all of those benefits without requiring constant travel for face-to-face communication. So here we are creating this integrable app any company, institute, others can easily customize as per their need or they can also integrate this in their app. This will be very cost efficient and takes very less time. Also, very less maintenance. We will provide regular update so your app always up to date. Once you have integrated you can easily add many new features.

### I. INTRODUCTION

Integrable video conferencing app, this is a video conferencing app like zoom, here user can easily integrate with any web application. Our goal is to make customer to build their own video conferencing app by changing our existing code or can also integrate us in the existing platform like student portal. This is an open-source application which can be modified as per their need. No user details or login credentials are required, our app can use existing app authentication to identify the user and their information. Our users can join using the meeting using code or create a new meeting easily. Here there are two major roles: moderator and Listeners. Moderator has control over the Meeting, they have access to remove listeners or introduce another moderator. Other special features like accept the listeners, draw in whiteboard access, record the meeting, download the chat etc. We have build this project to achieve certain goals which will separate us from the existing apps

- Using existing app data (authentication)
- Impressive app features like chat-live-polls, Questionary, white-board, etc.
- It supports HD Recordings and it is downloadable in mp4 format.
- Our plugin is easily customizable, we have build our app specifically for better and easy customization. (Separate backend for video hosting and other features)
- User can easily integrate with their website or redirect to hosted domain.

### II. METHODOLOGY

#### WEB RTC

we've got utilized WebRTC (web real-Time verbal exchange) technology as the spine of our video conferencing app. WebRTC is an open-supply undertaking that provides real-time conversation abilities for internet browsers and cell programs, without the want for additional plugins or downloads. By leveraging WebRTC, we're able to provide our users with a high-quality and seamless video conferencing experience that's accessible on a wide range of devices and platforms. One of the key benefits of WebRTC is its capacity to address video and audio transmission built-in real-time, with low latency and high quality. This allows us to provide our users with a

reliable and stable video conferencing experience, even in low-bandwidth or unstable network conditions. Additionally, WebRTC provides built-in security features, such as end-to-end encryption, which helps to ensure the privacy and security of our users' video calls. Moreover, we've also integrated a range of additional features into our WebRTC-powered video conferencing app, such as screen sharing, recording, white boarding, and chat, which enhances the overall collaboration experience. In conclusion, the use of WebRTC technology in our video conferencing app has enabled us to provide a reliable, secure, and feature-rich video conferencing solution that meets the needs of modern businesses and individuals alike.

### **React js**

"Our video conferencing app was built using React JS, a effective the front-end framework that allowed us to create a current and user-friendly interface. With React JS, we were able to build small and reusable components that helped us to make our codebase more modular, maintainable, and scalable. This made it clean for us to develop and implement new capabilities, such as actual-time video and audio streaming, display screen sharing, and chat. React JS is a popular and broadly used JavaScript library that permits us to create complicated user interfaces with ease. by means of utilizing React JS, we have been able to build a user interface this is contemporary, responsive, and easy to apply. additionally, React JS has a large and energetic network of builders, because of this that we have access to a wealth of understanding, resources, and third-party libraries that we can use to enhance the functionality and overall performance of our video conferencing app. we've extensively utilized numerous React JS libraries and plugins to enforce capabilities which include actual-time video and audio streaming, display sharing, and chat. overall, the usage of React JS has enabled us to construct a powerful, intuitive, and function-rich video conferencing app that meets the needs of modern users."

### **Video SDK**

Our video conferencing app became developed using Video SDK, which is a effective tool for constructing real-time communication applications that include features such as video and audio conferencing, screen sharing, and chat. Video SDK provided us with a robust and scalable solution that enabled us to offer a high-quality video conferencing experience to our users. one of the key benefits of Video SDK is its ease of use. It gives more than a few pre-constructed components and APIs that may be easily included into our software, allowing us to quickly and correctly increase new functions and abilities. This helped us to reduce our development time and expenses, at the same time as additionally ensuring that our app become constructed to the very best standards. in addition to its ease of use, Video SDK additionally gives advanced features which includes noise suppression, echo cancellation, and video quality optimization, which helped us to deliver a clean and seamless video conferencing experience to our customers. moreover, Video SDK also supplied us with effective security features, consisting of end-to-cease encryption and secure authentication, which helped to make sure that our users' information was protected at all times. The usage of Video SDK become instrumental in the development of our video conferencing app. It provided us with a effective and reliable toolset that enabled us to construct a feature-wealthy answer that met the wishes of present day users.

## **III. MODELING AND ANALYSIS**

### **Login page**

The login page is an important factor of our video conferencing app, because it serves as the first point of access for customers. We positioned a robust emphasis on developing a easy and intuitive design that could make it easy for customers to navigate and register to the app. We believe that a well-designed login web page can help users experience confident and comfy using our video conferencing app, and set the tone for a fine consumer enjoy. Here no email id, password is required you can just enter your name and join the meeting using meeting code.

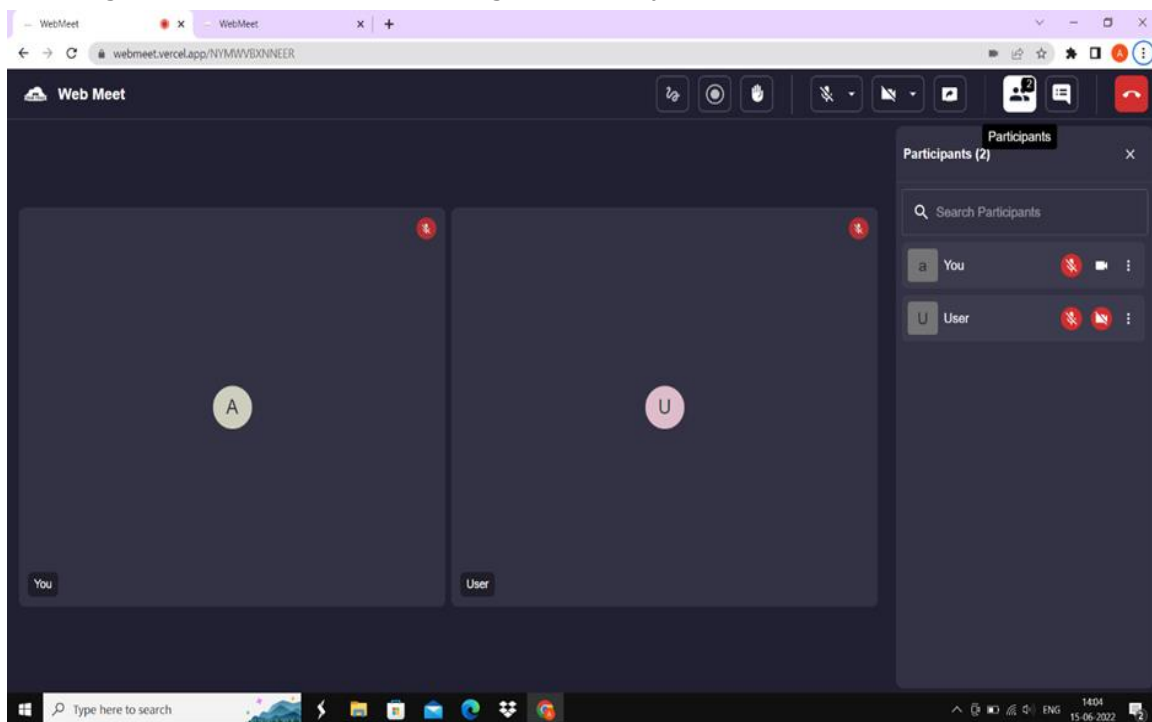
### **Screen recording**

Our video conferencing app consists of a screen recording feature, which lets in users to report and share content from their meetings or displays. We designed this feature with a focus on ease of use and capability, making sure that it's far handy to all users and gives a variety of recording options. To enhance the usefulness of recordings, we additionally protected enhancing abilities that allow users to trim and annotate their recordings. Making a screen recording is a quick and easy way to create an instructional video. By using it

you're able to capture the screen and do voiceover all in one take. Your MP4 recording can also be easily edited in Adobe, and you can always incorporate the recording into a larger project. We provide HD quality video recording. Which helps to get every information to you.

### Chat

Our video conferencing app includes a talk characteristic, which permits customers to communicate and collaborate during meetings or displays. We designed this feature with a focus on ease of use and capability, making sure that it is on hand to all users and gives quite a number functions like sending text, pictures, and documents, as well as emojis, reactions, and mentions. To beautify the usefulness of the chat feature, we integrated it seamlessly with other features of the app, inclusive of display sharing and white boarding, permitting customers to incorporate chat content material into their standard collaboration. usual, we consider that our chat function is a valuable addition to our video conferencing app, permitting users to communicate and collaborate effectively and enhance their universal enjoy. The in-meeting chat feature allows you to send instant messages to other users within a meeting. As the host, you can download the entire chat in excel sheet.



### Integration

One of the key features of our video conferencing app is its integration skills. We designed the app with integration in mind, making it clean for customers to connect to a spread of third-party tools and platforms. This makes it clean for customers to bring their existing workflows and equipment into their video conferencing revel in, streamlining collaboration and making it more green. further to this, we've got additionally designed our app to be especially customizable, allowing customers to tailor their enjoy to their specific wishes and choices. ordinary, we trust that our integration talents are a key feature of our video conferencing app, providing customers with the flexibility and functionality they need to collaborate correctly. we trust that our integration feature is a key electricity of our video conferencing app, offering customers with a powerful and flexible device that may beautify their collaboration efforts. by way of prioritizing ease of use, capability, and security, we are confident that our integration characteristic will be a valuable asset to our customers.

```

containerId: null,
redirectOnLeave: "https://webmeet.vercel.app/", // You, 4 weeks ago + bug fixed ...

micEnabled: false,
webcamEnabled: false,
participantCanToggleSelfWebcam: true,
participantCanToggleSelfMic: true,

chatEnabled: true,
screenShareEnabled: true,
pollEnabled: true,
whiteboardEnabled: true,
raiseHandEnabled: true,

recordingEnabled: true,
recordingEnabledByDefault: false,
recordingWebhookUrl: "https://www.videosdk.live/callback",
recordingAWSDirPath: "/meeting-recordings/${meetingId}/", // automatically save recording in this s3 path

brandingEnabled: true,
brandLogoURL: "https://www.linkpicture.com/q/Web-Meet-logos_white.png",
brandName: "Web Meet",
poweredBy: false,

participantCanLeave: true, // if false, leave button won't be visible

livestream: {
  autoStart: true,
  outputs: [
    // {
    //   url: "rtmp://x.rtmp.youtube.com/live2",
    //   streamKey: "<STREAM KEY FROM YOUTUBE>",
    // },
  ],
},

permissions: {
  askToJoin: false, // Ask joined participants for entry in meeting
  toggleParticipantMic: true, // Can toggle other participant's mic
  toggleParticipantWebcam: true, // Can toggle other participant's webcam
  removeParticipant: true, // Remove other participant from meeting
  endMeeting: true, // End meeting for all participant
  drawOnWhiteboard: false, // Can Draw on whiteboard
  toggleWhiteboard: false, // Can toggle whiteboard
  toggleRecording: false, // Can toggle recording
}

```

#### IV. RESULTS AND DISCUSSION

##### Result

Our video conferencing app become a great success, offering users a function-rich and intuitive solution for communication and collaboration. With the ability to connect with others via high-quality video and audio calls, screen sharing, and messaging, users could collaborate and communicate more effectively, whether in personal or professional settings. the use of React JS and Video SDK allowed us to build a powerful and flexible app that became easy to use and maintain, whilst additionally offering advanced features inclusive of noise suppression, end-to-quit encryption, and screen recording. By leveraging the latest web technologies and frameworks, we were able to deliver a seamless and high-quality video conferencing experience that met the needs of modern users. overall, our video conferencing app turned into a testament to the strength of modern internet technologies and frameworks, and their ability to supply intuitive and function-rich solutions for real-time communication and collaboration. With our app, customers were able to connect and collaborate with others, no matter their location or device, making it a treasured tool for enhancing productiveness and collaboration in present day virtual age.

##### Testcase:

S.No	Input	Output	Pass/Fail	Expected Result
1	User name validation	TRUE (0.568)	Passed	True
2	Audio video interaction	TRUE (0.59)	Passed	True
3	Share button interaction	FALSE (0.30)	Passed	False

#### V. CONCLUSION

In conclusion, regarding the results obtained from the surveys, the vast majority users perform at an advanced level in the platforms for the virtual teaching, learning and other tasks. The contribution of this research work is aimed at the educational environment and workplace. The academic community can make use for students, teachers and authorities, from this work. This is one of the best ways of communication for large organizations as they provide an instant and reliable method through which the entire organization can connect,

communicate, and collaborate. Not only do video conferencing tools make communication efficient, more comfortable, and cheaper for the organization but they also provide a lot of intangible benefits such as increasing the productivity of the employees in the organization in general. We would like to add more features and improve our video conferencing plugin. Our aim is to make this conferencing tool very easy and solve every user's conferencing problem.

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