Video Chatting Website

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ABSTRACT:

- web-based video chat application that allows users anywhere in the world to join real-time streaming video chat rooms. This product is similar to social networking sites that allow web-based video conferencing.

- The demand for social networking sites is increasing day by day. A social networking site that allows you to video chat online is the primary inspiration for my project. The goal of my project is to build an online video chatting tool that enables users to join real-time streaming video chat rooms where users can share their video with multiple users. Users can send instant messages and share their live web cam data to other users in the chat room.

ABSTRACT:

- The main technology used in this project is WEBRTC and Firebase. Real-time communication for the web With WebRTC, you can add real-time communication capabilities to your application that works on top of an open standard. It supports video, voice, and generic data to be sent between peers, allowing developers to build powerful voice- and video-communication solutions.

- Firebase is a real-time database that allows storing a list of objects in the form of a tree. We can synchronize data between different devices. Google Firebase is Google-backed application development software which allows developers to develop Android, IOS, and Web apps.

- Firebase manages all data real-time in the database. Hence, if you are looking to develop mobile apps such as live streaming, chat messaging, etc., you can use Firebase

Importance and need of project

- users anywhere in the world to join real-time streaming video chat
- saves time
- reduces travel expenses,
- It Improves Communication
- It's Efficient
- It Improves Communication
- It Connects Family and friends

Methology

- **1.WebRTC:**

- The very definition of WebRTC is peer-to-peer communication between web browsers. The reality is, most browsers run in computers that operate behind a NAT (network address translation) device, and optionally a firewall. The NAT device, usually a router or modem, allows computers with private IP addresses to connect to the Internet via a single public IP address.

- NAT devices protect personal computers from being directly exploited by malicious users over the Internet via the IP address. Unfortunately, it also blocks devices with private IP addresses from connecting to another private IP device over the Internet.

- Simple WebRTC is a platform that provides an easy and cost-effective service for developers to build and deploy custom real-time applications using React

Methology

2.Firebase:

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- Google Firebase is a Google-backed application development software that enables developers to develop iOS, Android and Web apps. Firebase provides tools for tracking analytics, reporting and fixing app crashes, creating marketing and product experiment.

- Firebase is Google's mobile application development platform that helps you build, improve, and grow your app.Firebase is Google's mobile application development platform that helps you build, improve, and grow your app.

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Methology

3.Node js:

- we will include the video chat portion into our app. We will walk through building events that allow two peers to communicate. We will also walk through building the signalling server that is used for peer to peer connections.

- **What are the requirements?**

- Basic Knowldage of Node.JS

- Basic Knowldage of NPM packages: PeerJS peer

- Basic Knowldage of CSS

- Basic Knowldage of HTML

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   WebRTC is an open source project to enable realtime communication of audio, video and data in Web and native apps. WebRTC has several JavaScript APIs click the links to see demos. getUserMedia() : capture audio and video.

Requirements process:

- Download & Install: 'git', node JS
- Go to 'Firebase Console'
- Create Cloud Firestore Database & Realtime Database

Command line:

- 1. git clone -b solution –
- 2. npm install firebase-tools -g
- 3 webRTC install
- 4. firebase login
- 5. firebase use --add
- 6. firebase deploy

Benefits

- **1. Enable the Digital Workforce**

- Video conferencing software not only creates a more collaborative meeting culture in your organization, it's a foundation for enabling today's digital workforce.

- **Simplify Management and Usability**

Teams need access to the collaboration solutions that let them meet via audio conferencing,video conferencing, screen sharing and real-time   instant messaging.

Benefits

3.Rally Communication and Culture

Today's workforce prioritizes mobility, flexibility and modern forms of communication over private offices and seclusion. Bringing remote workers face-to-face with in-office employees can boost productivity on both ends and lower travel costs at the same time.

4. Increase Communication Reliability

Video conferencing provides a fast and secure way to communicate with your teams.

Conclusion:

- To conclude, building a real-time video chat solution with WebRTC is easier when using a commercial platform. Going the open-source route is doable, but you'll need to host your own TURN servers to ensure a reliable connection for all your users. In any case, the building process can be time consuming, given the relative complexity of the sample apps we've looked at.

- They key question to ask yourself is whether or not it's worth your time building your own custom real-time solution. Unless you plan on making WebRTC your core business, you'll probably need to first consult with a company that has experience dealing with the technology.

Thank You.