**INTERNSHIP PROJECT REPORT**

**VIDEO CHATTING WEBSITE**

**(Let’s Talk)**

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# Abstract

Video calling has become an integral part of our day-to-day life for establishment of communication. Be it Business Meetings, Online Lectures, Hanging Out with friends etc. Video Calling is in demand for each and everything. Video Calling has recently gained immense popularity due to this pandemic. Taking this immense growth into consideration, the progress of video technology, video communication is gradually changed from point-to-point to multipoint-to-multipoint, from standard image to high-definition image, from one-way transmission to two-way transmission. These changes are made possible by the improvements in video compression, fast switching and network quality.

To follow the world trend, the communication systems and the terminal equipment of different brands should follow the same standard to popularize the products such that the new, low-price, versatile services can be provided.

# Table of Contents

|  |  |  |
| --- | --- | --- |
| Sr. No. | Topic | Pg. No. |
| 1. | Introduction | 4 |
| 2. | Existing Methods | 5 |
| 3. | Proposed Method with Architecture | 6 |
| 4. | Implementation | 7 |
| 5. | Conclusion | 10 |

# Introduction

# Video Calling has become the major part of our life as a means of communication especially during the pandemic time. In business sectors, to avoid face to face contact video conferencing technologies play an important role. Meetings, briefs and collaborative idea-sharing still take place, even when the office staffs aren’t in the same room. Main criteria is that we should have good internet connectivity so that we can get better audio and video quality. In education industry video calling is widely used inside and outside the classrooms. It gives the ability to share the knowledge to the students that are remotely located in rural areas, other cities, or even other countries. Nowadays, due to pandemic institutes have to totally rely on these technologies. Also due to the video conferencing technologies we can connect to our friends, family who stay apart from us. All types of businesses whether small or large, can benefit from video-conferencing technology in some way, allowing for improved customer service, better collaboration, and enhanced productivity.

# The goal of our project is to build the video calling website that enables user to connect other user in real-time by streaming video, where user can share their video with multiple users at a same time. User can also chat during the video call session and share their live video to other user in the chat room.

# The main technology used in this project are WebRTC and Socket IO. WebRTC is a technology that is used to setup peer-to-peer connections to other browsers and stream audio and video content to million of people. Socket IO, which is a JavaScript library that enables us to communicate in real-time and in bidirectional way between web client and server.

# Existing Methods

We found many existing Video Chatting websites on the net, some of them are listed below:

* **Omegle** is one of the most well-known random video chat sites. This online chat website caters to people that want to have a conversation with total strangers. Initially launched as a text-only chat platform, Omegle introduced its video chat function in 2010, a year after its release
* **Fruzo-Fruzo** is an online video chatting platform that allows users to connect with people through their Facebook accounts or create a new profile to use this network.
* **Faceflow** platform has transformed social networking totally; users can video chat with about three people simultaneously. FaceFlow is an application that provides free video conferencing and video chat with your friends straight up from your internet browser.
* **Tinychat-Tinychat** is a random video call site where you can easily create a conference call with several people at the same time. A conference call has never been this easy because it is flexible enough; it is available on all devices. You can use this app on your computer and mobile device on any platform.
* **Younow-Younow** is one of the unique video chat websites on the list. Why? Premium users can create and host their chatrooms, and other users can join and interact with each other. Here, the hosts can also link their usernames with their social media accounts like Twitter or Instagram to gain followers.

# Proposed Method with Architecture & Methodology

Let’s talk is created using HTML, CSS, JAVASCRIPT and NODE JS with some essential libraries namely: Socket.io which consists of the Node. Js server: Source | API, WebRTC which consists of various Java Script APIs etc.

HTML and CSS is used for creating the GUI for the Web Site, Now the User enters the required fields which are the User Name and the Room Name in the given input fields and clicks the Create Room button for generation of a unique Room Link which is basically a Random String generated through the Java Script. When the Room Link is generated, the user can share the following link to other users who wish to be added to the Room, When the invited user clicks on the Room Link shared by the Owner, the user needs to enter their name and click the Enter Room button and is allowed into the Room Created, all this connection establishment and linking is done with the help of Socket.io and WebRTC by the following ways:

Socket.io library helps in enabling real-time, bidirectional and an event-based communication between the browser and the server. Socket.io requires a http server for the initial upgrade and hence it generates its own http server and hosts the packages over it. On the other hand, WebRTC (Web Real Time Communication) as the name suggests is used to establish a peer-to-peer communication and enables the Web Applications and Web Sites to capture the stream audio/video or both as per the user’s choice and also exchange the data between the browsers without any requirement of an intermediatory.

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# Implementation

# The Main screen

# 

# Once the User enters the necessary details the room link is generated

# 

# The Invited users screen when the owner shares the Room Link to the guest

# 

# The Room Screen

# 

# 

# When the user turns their video off (User Screen)

# 

# When the user turns their video off (Other users Screen)

# 

# Conclusion

# This project is entitled as Let’s Talk - A video calling web application. Though many difficulties were faced during the project as well as many errors occurred, we became succeed to compile and run the program. This project can be experimented in future by adding more features to it. As well as, we are more hopeful for more advice, new ideas and inspiration to make more improvisation to our project. We have tried our best to include each and every basic feature of web development in our project. From this project we were able to achieve various knowledge not only in web development but also in logical coding. Moreover, we also gained an experience of group work, team coordination. We learned how team work is very much important in engineering field.