

GURU GHASIDAS UNIVERSITY

BILASPUR, CG



A

MINOR PROJECT ON

“WeWatch : A Video Re – Streaming Platform”

DEPARTMENT OF COMPUTER SCIENCE AND INFORMATIO

TECHNOLOGY

Session: 2021–22

Submitted To:

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DECLARATION

In this undersigned project I solemnly declare that the report of the project work entitled “**WeWatch : A Video Re-Streaming Platform**” is the actual work carried out during the course of my study under the supervision of

MR. AMIT KUMAR CHANDANAN SIR

Department of computer science

I assert that the statements made and conclusions drawn are an outcome of the project work. I further declare that to the best of my knowledge and belief that the report does not contain any part of any work which has been submitted for the award of any other degree/diploma/certificate in this University/deemed University of India or any other country. All helps received used for the preparation of the project have been duly acknowledged.

(Signature of the Candidate)

Name: NISCHAY CHANDRA

Roll No.: 19207733

Enrolment No.: GGV/19/5089



CERTIFICATE

The project entitled **WeWatch : A Video Re-Streaming Platform**, Submitted by
NISCHAY CHANDRA has been
Examined by the undersigned as a part of the
Examination.

Signature of
Project Guide.

Signature of
HOD.

ACKNOWLEDGEMENT

It is great pleasure for me to present my project report on

“WeWatch : A Video Re-Streaming Platform”

To the department of

COMPUTER SCIENCE AND INFORMATION TECHNOLOGY (CSIT)

I also express my sincere thanks to the

**HOD of COMPUTER SCIENCE AND INFORMATION TECHNOLOGY
(CSIT)**

For providing us with the relevant facilities. I would like to thank the management for giving support throughout the project work.

I am also grateful to all those who directly or indirectly helped me in the successful completion of this project report.

(Signature of the Candidate)

Name: NISCHAY CHANDRA

Roll No.: 19207733

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INTRODUCTION

After the 4G roll out in India, online video streaming services like YouTube, Netflix, Amazon Prime, Vimeo have gained a huge user base. India has the cheapest data price per GB all over the world and combined with affordable 4G enabled phone, we are now one of the largest consumers of online videos.

YouTube, a subsidiary of Google is the most popular in this list because of its never-ending library with multiple videos on every possible category. It lets the users to upload their own videos for free and without a file size limit. So now we have so many emerging YouTube content creators who regularly upload videos to their channel for their audience. One way of uploading videos is called "Live Streaming", it is like they are continuously recording and then sending it directly to YouTube from where anyone can watch it in real time or later when they want. While Live Streaming users can also engage in real time chat with other connected users or even with the creator. Once the live stream ends the live chat also gets closed.

WeWatch lets you create your own live stream from other creator's videos and lets you enjoy the same chat experience again. Share the watch room id and password with your friends and re live the moments.

HOW IT WORKS?

We call each stream a "Room", it is like a group chat room which can be found in any live chat app. So, one user has to create a Room by pasting a YouTube video link to the given space, provide a password for that room and enter his/her name. After that the system generates a unique Room Id which can be shared with other users. The creator can now start the stream. Anyone who joins the room can control the playing video's state like Play, Pause or Seek to a specific point, and this will be reflected to all the connected nodes.

Other users will use the Room Id and password provided by the creator to join the same room and take part in ongoing live stream. They can also use the embedded chat window provided in app to chat with other users in the room.

At the backend, the system is running on a Web Socket connection which makes this live chat and concurrent playing possible.

I chose JavaScript for making the project because I am doing projects in JavaScript for over a year now. JavaScript has very few requirements as compared to other programming languages plus it has an easy syntax and fast learning curve. Plus, it has a humongous developer community support. The runtime I have used is Node JS. It is based on the same V8 engine on which the most popular Google Chrome browser is based.

SYSTEM REQUIREMENTS

- Any operating system which can support Node JS.
- Node JS version 12 or higher.
- Any web browser.

INSTALLATION PROCESS

- Clone the repository or download as zip the code from following Github repository <https://github.com/nischay2x/we-watch-minor-project>
- Open any kind of terminal window like Command Prompt, Git Bash, Powershell to the root of the downloaded or cloned folder.
- Run command : `npm install`, this will install the dependencies required for the project in a folder named 'node_modules'.
- After installation completes, run command : `node index.js`, this will start a node server on your system.
- Now you can visit <http://localhost:5000> on web browser of your choice to view the client interface.

Find the Source Code here at: [Github - We Watch](#)

WHY YOU MIGHT USE IT?

The problem with Google Meet or any other video chat app that lets you cast your screen to other joiners is, that, the quality of your screen casted video will decrease no matter how good the internet connection is, and also you have to spend 2x of your bandwidth because first, you are streaming the video from YouTube and then also sending feed to the Chat App. Add voice chat on top of that and you will be dealing with bad network speed.

What **We Watch** does is that, it splices the part where you have to send the video feed to other joiners and thus saves half of your bandwidth. You just have to pick up the Video URL from YouTube and create a Room for that providing a password and a display name. The app will render the Player and the video on other joiner's devices natively using their network. They can increase or decrease their video quality according to their convenience.

CONCLUSION

I got the Idea of making this project from Tanmay Bhat, he is a YouTube content creator. He invites his friends and other celebrities to his channel and watches videos with them and reacts on them giving insights. He uses Google Meet to mirror his screen to other guests which has the above listed drawbacks. So I made this project which will eliminate the purpose of screen mirroring.

I am very well aware that this is not production ready, it needs more security and features to make it a product that can replace Google Meet or similar apps, but, this project is a first step in making of such product.

I took help from people from Internet through StackOverflow, Dev Forum, Reddit, Github, Medium and many other online developer communities. I also got help from official Socket.io documentation and YouTube channels with a special mention to 'Fireship'. I am very thankful to all these people most of which I will never get to meet in person for the guidance. I would like to thank Dept. of CSIT of Guru Ghasidas University, Bilaspur, CG, for providing me this opportunity to showcase my talent.