AN INTERNSHIP REPORT

ON

Web Developer Intern at InternPe

SUBMITTED TO THE SAVITRIBAI PHULE PUNE UNIVERSITY, PUNE
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE AWARD OF THE DEGREE OF

BACHELOR OF ENGINEERING
INFORMATION TECHNOLOGY

BY

Name: Maitreya Awad
Roll No: 33205
Class: TE-10

Under the guidance of
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DEPARTMENT OF INFORMATION TECHNOLOGY
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AY: 2022-2023

SCTR's PUNE INSTITUTE OF COMPUTER TECHNOLOGY
DEPARTMENT OF INFORMATION TECHNOLOGY

C E R T I F I C A T E

This is to certify that the SPPU Curriculum-based internship report entitled
Web Developer Intern at InternPe

Submitted by

Name : Maitreya Awad
Roll No : 33205 .

is a bonafide work carried out under the supervision of Dr. Shweta C. Dharmadhikari and it is submitted towards the partial fulfillment of the requirements of Savitribai Phule Pune University, Pune for the award of the degree of Bachelor of Engineering (Information Technology).

Dr. Shweta C. Dharmadhikari
Internship mentor

Dr. A. S. Ghotkar
HOD IT

Date:
Place:

Acknowledgement

I would like to thank my internship mentor Dr. Shweta C. Dharmadhikari, Department of Information Technology, PICT, for guiding me appropriately at each stage of this internship. She has been extremely helpful in the completion of this internship.
I would also like to thank Mrs. Kirti Digholkar, Department of Information Technology, PICT, Dr. Archana S. Ghotkar, Head of Department, Department of Information Technology, PICT, for providing me the opportunity to complete my internship and present this report by providing all the resources required.
I would also like to extend my sincere gratitude to all those who have contributed either directly or indirectly towards the completion of this internship.

Name : Maitreya Awad
Roll No: 33205

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2. Introduction

2.1 Introduction

I completed a 4 weeks Web Development internship at InternPe Pvt. Ltd. from 27 February 2023 to 26 March 2023. The internship was conducted in online mode, a task was assigned every week by the mentor which was an integral part in implementing the final project.

During the internship, we developed an online chat web application using MERN stack and Socket.io as our main project. The web app was inspired from Messenger chat application. We also implemented small web applications like Calculator and Number guessing game in order to lay foundation for Javascript and MERN stack which also helped us in implementing the final project.

During the internship, I worked on both the frontend as well as the backend part.

2.2 Objectives

1. To understand the basic foundations for building a web app.
2. To design and develop a system with enhanced features and scalability.
3. To learn about MERN stack and how to build projects using it.
4. To understand how frontend and backend are integrated with each other.

2.3 Scope

Exploring different web technologies. Also using them to solve real world problems and to gain knowledge of MERN stack. To understand how to integrate Front-end with Back-end. Also to learn about API's and how data fetching is done on the server side.

3. Methodological Details

3.1 Designing and developing the online chat web app

We explored different MERN applications, looked for references and then started building the backend API's for out web app. The package manager used was NPM (Node Package Manager). We downloaded several dependencies including nodemon, axios, cors, etc. We used Chakra-UI which is a ReactJs component library for building the frontend easily. The backend part was implemented using NodeJs, ExpressJs and MongoDB for database. The integration between the frontend and the backend was done using Axios and cors. The message sharing part was implemented using Socket.io which is an event-driven library for web applications involving sharing of messages. The API's had to be developed according to the user model and the chat model and so were the routes.

3.2 Deploying the web app using Render

The web app i.e. the frontend and the backend were deployed on Render which offers free website or web app hosting services. We need to connect out github account in order to host the website or web app.

4. Modern engineering tools used

1. **JavaScript** : JavaScript is a lightweight, interpreted programming language. It is designed for creating network-centric applications. It is complimentary to and integrated with Java. JavaScript is very easy to implement because it is integrated with HTML. It is open and cross-platform.

2. **NodeJs** : Node.js is a cross-platform, open-source server environment that can run on Windows, Linux, Unix, macOS, and more. Node.js is a back-end JavaScript runtime environment, runs on the V8 JavaScript Engine, and executes JavaScript code outside a web browser.

3. **ExpressJs** : Express.js, or simply Express, is a back end web application framework for building RESTful APIs with Node.js, released as free and open-source software under the MIT License. It is designed for building web applications and APIs. It has been called the de facto standard server framework for Node.js.

4. **ReactJs** : React is a free and open-source front-end JavaScript library for building user interfaces based on components. It is maintained by Meta and a community of individual developers and companies. React can be used to develop single-page, mobile, or server-rendered applications with frameworks like Next.js

5. **Chakra-UI** : Chakra UI is a comprehensive library of accessible, reusable, and composable React components that streamlines the development of modern web applications and websites. The library offers a diverse range of components that can be easily combined to build complex user interfaces while adhering to accessibility best practices.

6. **Axios** : Axios is a promise-based HTTP Client for node.js and the browser. It is isomorphic (= it can run in the browser and nodejs with the same codebase). On the server-side it uses the native node.js http module, while on the client (browser) it uses XMLHttpRequests.

7. **Render** : Render is a unified cloud to build and run all your apps and websites with free TLS certificates, a global CDN, DDoS protection, private networks and auto deploys from Git.

8. **MongoDB** : MongoDB is a source-available cross-platform document-oriented database program. Classified as a NoSQL database program, MongoDB uses JSON-like documents with optional schemas.

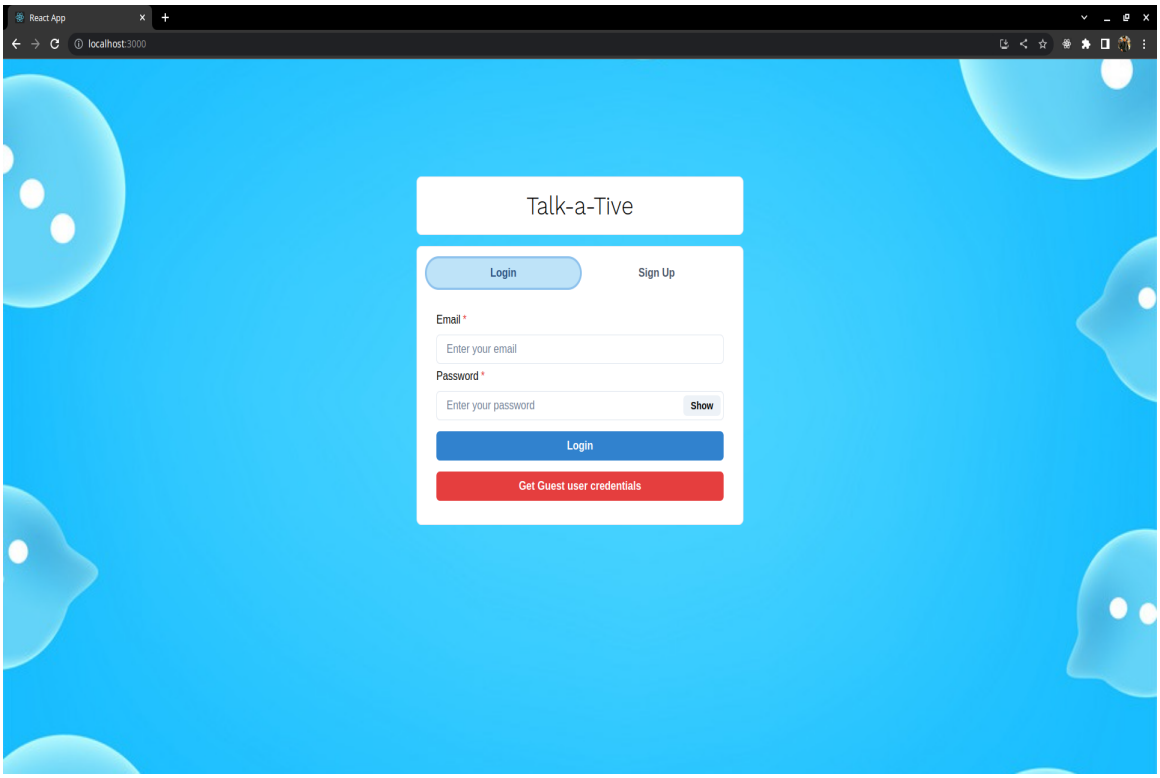
9. **Socket.io** : Socket.IO is an event-driven library for real-time web applications. It enables real-time, bi-directional communication between web clients and servers. It consists of two parts: a client-side library that runs in the browser, and a server-side library for Node.js. Both components have a nearly identical API.

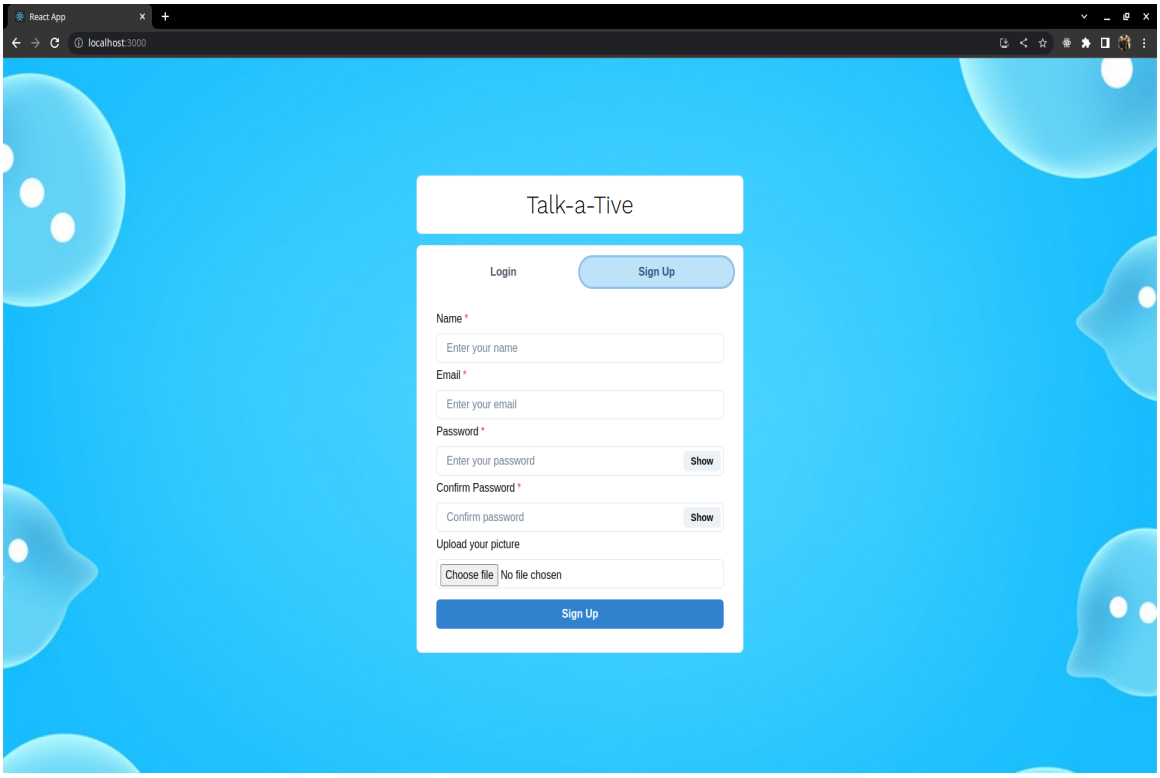
10. **Mongoose** : Mongoose is a JavaScript object-oriented programming library that creates a connection between MongoDB and the Node.js JavaScript runtime environment

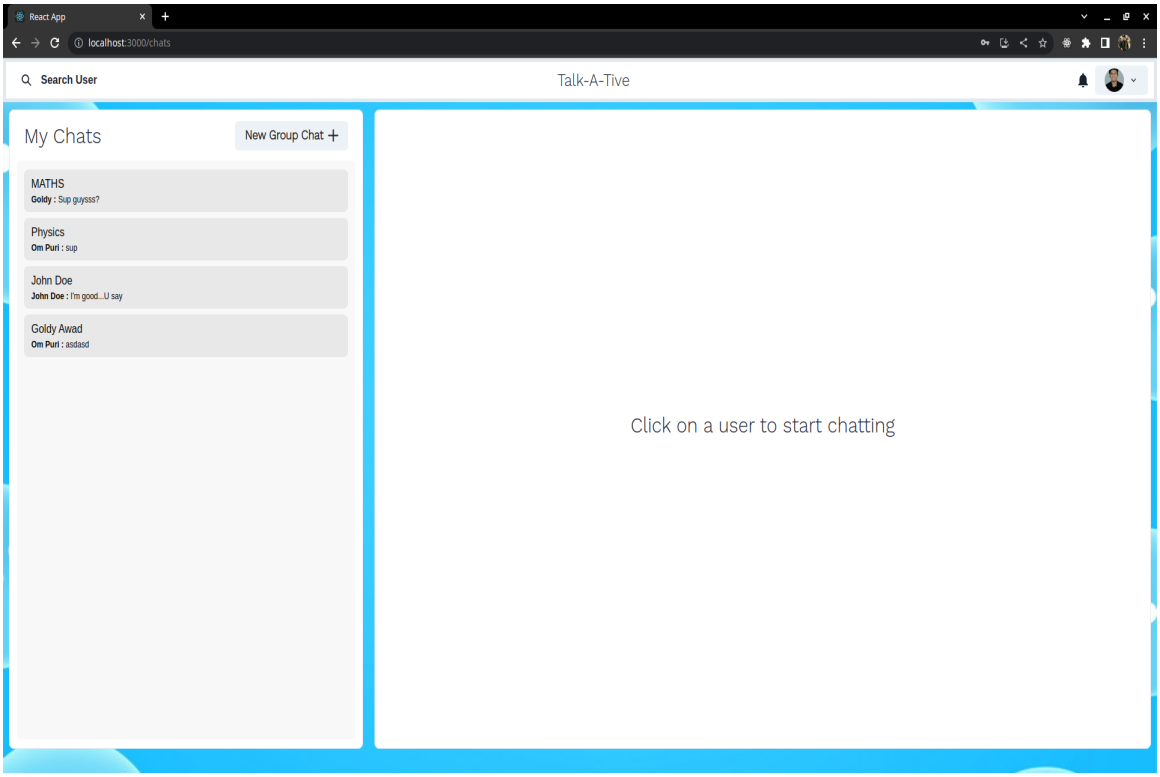
4.1 Any achievement (Job opportunity, project sponsorship, patent, commercial product, research publications, pre-placement offers, a strong professional network etc.)

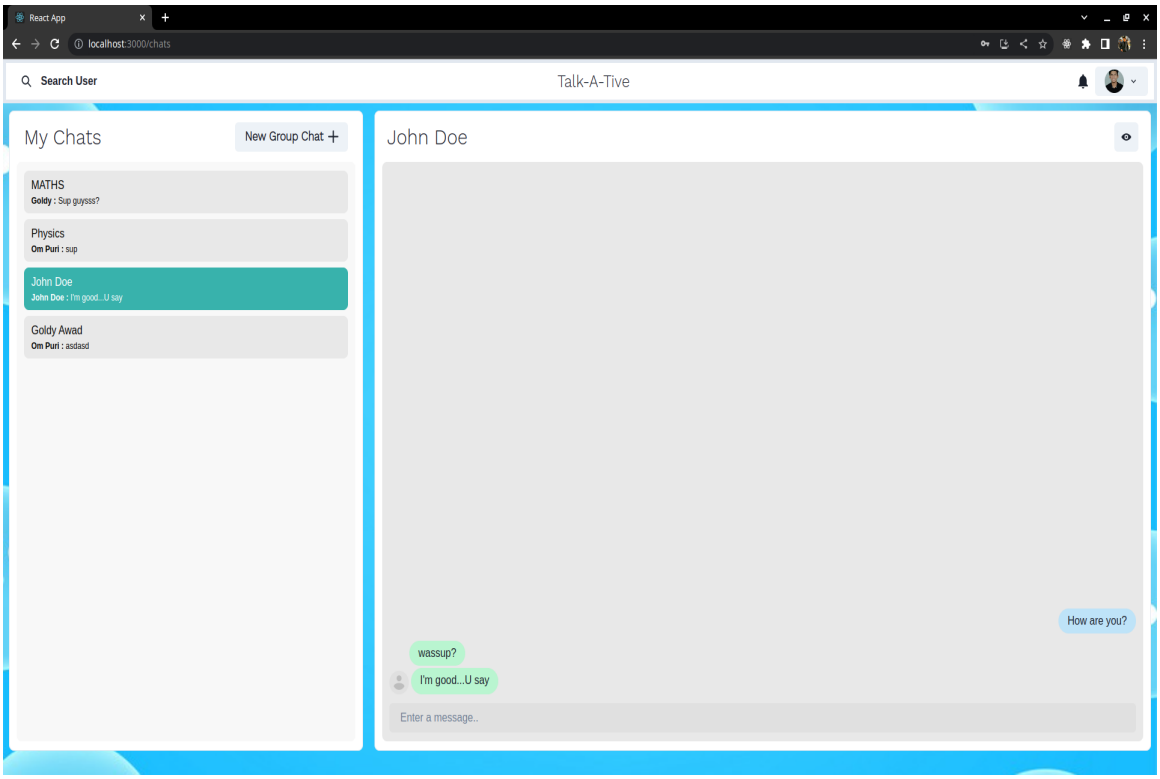
I was selected as a Junior web developer for web development domain. I worked for this position from 27th February 2023 to 26th March 2023. It was a great learning experience for me to work as a Junior web developer. I gained expertise into the web development domain thanks to this internship opportunity.

5. Outcome / results of internship work






React App
localhost:3000/chats
Search User
Talk-A-Tive
My Chats
New Group Chat +
MATHS
Goldy : Sup guysss?
Physics
Om Puri : sup
John Doe
John Doe : I'm good...U say
Goldy Awad
Om Puri : asdasd
Click on a user to start chatting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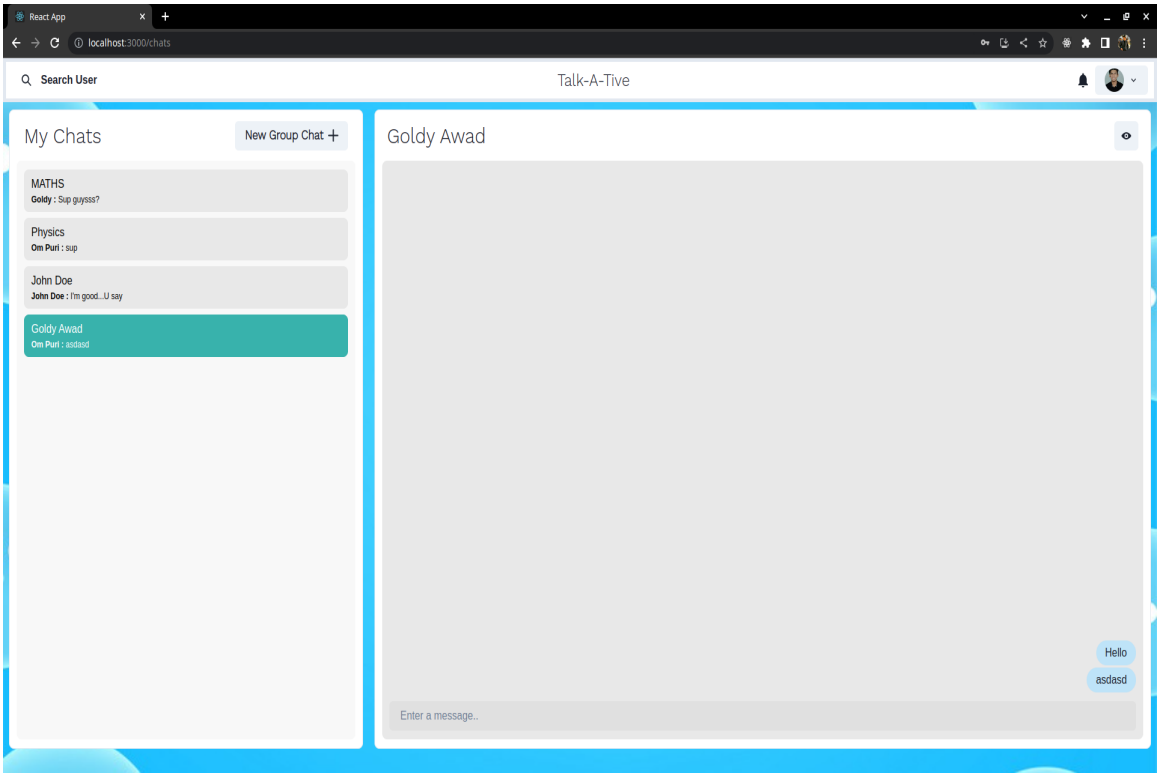
How are you?
wassup?
I'm good...U say
Enter a message..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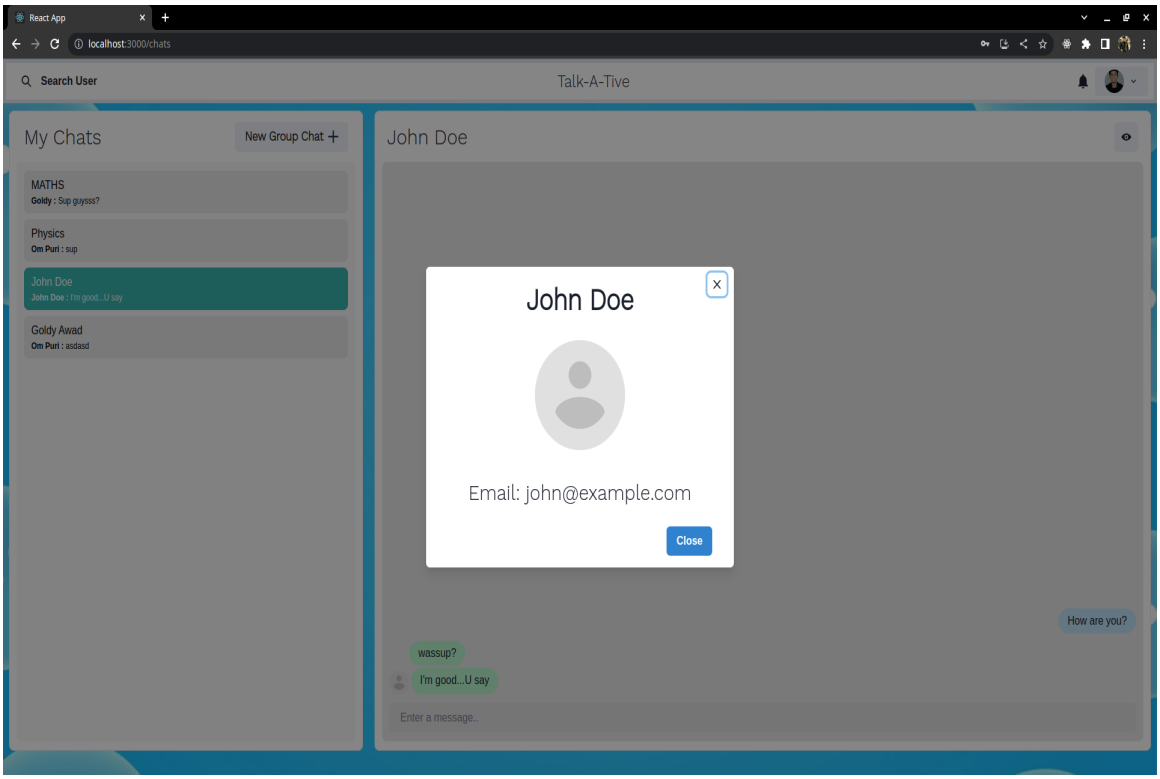
Goldy Awad
Hello
asdasd
Enter a message..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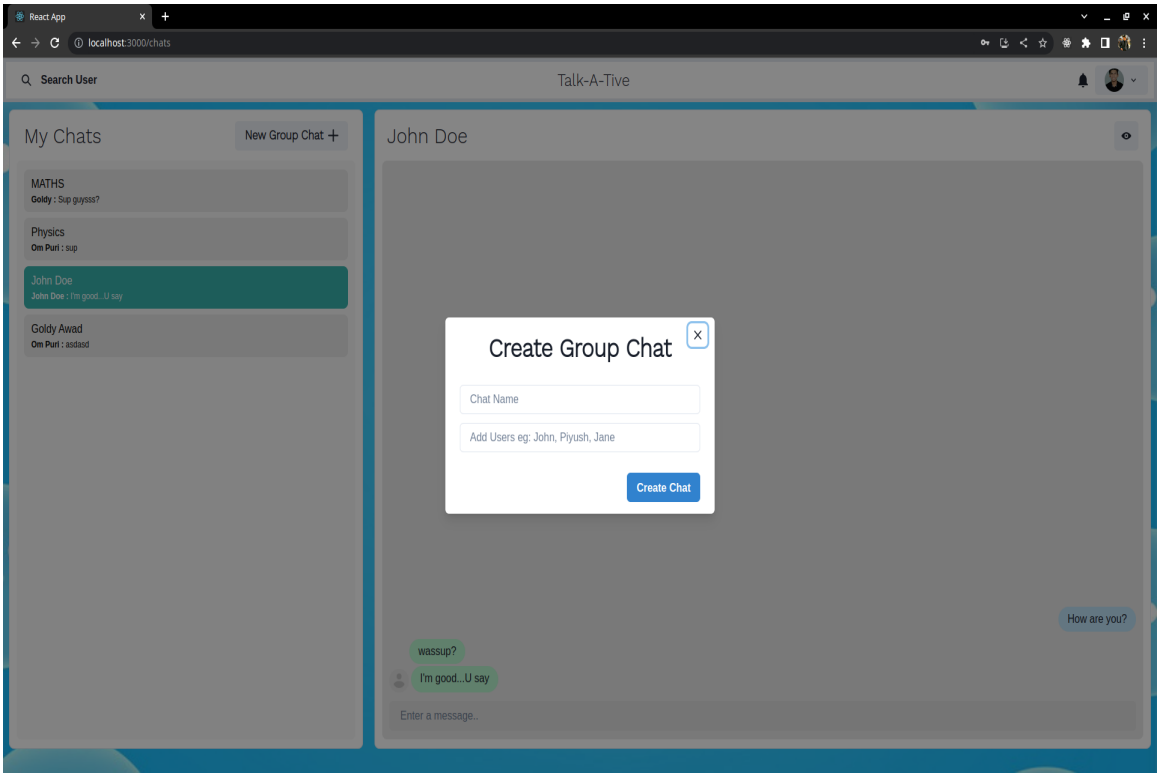
John Doe
John Doe
Email: john@example.com
Close
How are you?
wassup?
I'm good...U say
Enter a message..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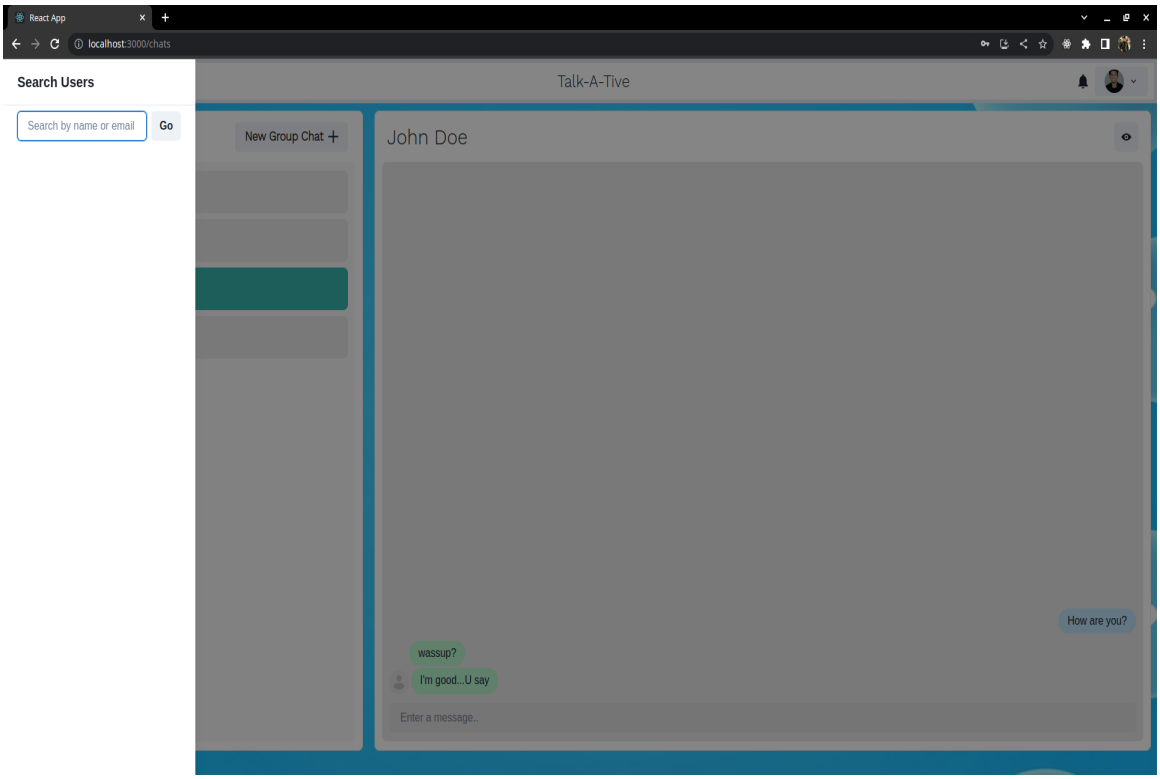
Goldy Awad
Om Puri : asdasd
John Doe
Create Group Chat
Chat Name
Add Users eg: John, Piyush, Jane
Create Chat
How are you?
wassup?
I'm good...U say
Enter a message..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Search by name or email
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Enter a message..

6. Conclusion

During my Web-Development internship, I have learned about the basics of web frontend and backend design. This internship gave me the opportunity to try our new skills in practice. While doing this internship we also gained a deeper understanding of web design and how it can be implemented in real-life situations. We believe that we can use our web designing skills in other projects also.