iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 10 **Issue:** V **Month of publication:** May 2022

DOI: https://doi.org/10.22214/ijraset.2022.42902

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International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 10 Issue V May 2022- Available at www.ijraset.com

Development of Chat Application

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Abstract: ***Conversation is a way of using technology to connect people with ideas outside of local boundaries. The technology has been available for years but adoption has only recently taken place. Our project is an example of a chat server. It is made up of two applications - the client application, which runs on the user's web browser and the server application, running on any network servers. To start chatting the client must be connected to a server where they can conduct private and group chat. Safety measures were taken at the last moment. The latest developments in the internet have brought the world into our hands. Everything happens online from information transfer to purchasing. The internet makes the world a little round. This project is also online. This paper highlights the importance of the use of dialogue in everyday life and its impact on the world of technology. This project is for the development of a chat system based on Javascript programming language and network concept. The app allows people to transmit messages both privately and publicly .It also enables the feature to share resources such as files, photos, videos, etc. This online application is designed to communicate or chat with others online. It is more reliable and secure than any other traditional system available. Javascript, React.js and the client server concept were used to develop a web-based chat app. This app is built with the right structures for future development. It can be planted in all private organizations such as Colleges, IT parks, etc.***

Keywords: Javascript , React.js, Internet.

I. INTRODUCTION

Today Developers around the world are making efforts to enhance user experience of using Today Engineers around the world are making efforts to improve the user experience of the application and to improve the workflow of the developer to design applications to deliver projects and applications for the release of releases under a strict timeline. Stacks can be used to build web applications in a very short time. Stacks used in web development are basically a software developer response to current needs. Embrace existing frameworks (including JavaScript) to make their lives easier. Although there are many, MEAN and MERN are just two of the most popular stacks that came out of JavaScript.

Both stacks are made with open source components and provide an end-to-end framework for building comprehensive web applications that enable browsers to interact with the site. The common theme between the two is JavaScript and this is also a major advantage of using any stack. One can avoid any syntax errors and any confusion by encoding in one programming language, JavaScript. Another benefit of building web projects with MERN is the fact that one can benefit from its improved flexibility. To understand the MERN stack, we need to understand the four components that make up the MERN stack, namely MongoDB, Express.js, React and Node.js.

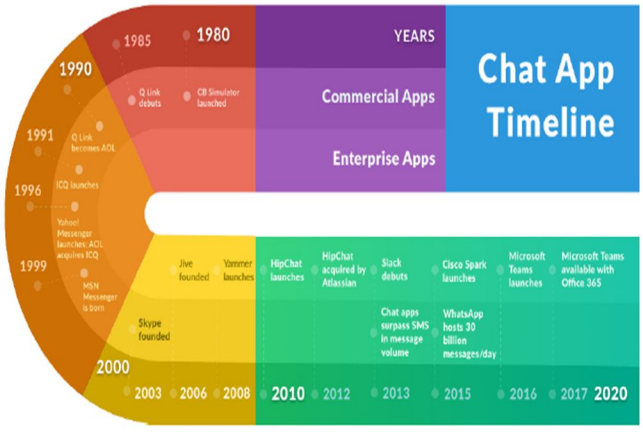


Figure 1. Chat App Timeline

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II. PROBLEM STATEMENTS

To keep pace with this fast-moving world, we need to be adaptable to changing circumstances. Communication is one of the most important aspects of any business.

And being able to develop these features is essential to growing a business. Having a good customer service team is essential to improving business relationships with the customer. But it also helps to reach out to your clients where you are. Showing that you are also improving can be important to your customers. This feature indicates that you are willing to adjust to a variety of changes for potential customers.

In addition, chat apps allow employees to interact and work together. Teams of employees can share ideas and solve company problems with a single click. At a time when people are sitting at computers all day, it makes sense that conversations take place there. The chat app works very well in email communication. And the main goal of a chat request is cooperation. This means that its integration can lead to better employee performance and productivity.

III. AIM

The aim of this project is to build a real-time messaging developer messaging app using modern web technologies.

Unlike most chat apps available in the market, this one will focus on developers and will try to increase their productivity. While we do not expect it to have a lot of resources due to limited time, coding and archive view will be our main features.

It will be a completely open source. Everyone will be able to dig into the code to learn what happens after the scenes, or contribute to the source code. It was therefore within our intent to write pure codes, which could be measured by following the most popular patterns and principles of each language and relevant libraries.

IV. OBJECTIVE

1) Using a private network chat system or organizations.
2) Ensuring the security of message and confidential data to be shared over the network.
3) Keeping data confidential in a secure way.
4) Creating a two-way communication system.
5) Allow both group chat and private chat.
6) To allow for easier and faster communication between people.
7) Ensure unlimited data transfer without any size limit.
8) Making people connect with others anytime, anywhere.

V. LITERATURE SURVEY

1) In 2020, Jhalak Mittal, "Arushi Garg, Shivani Sharma" and "Online Chat Request" was published by the International Journal of Research in Engineering, IT and Social Sciences, ISSN 2250-0588. This research paper contains the information we have provided to maintain the security and protection of the request for a speech. We have identified many requirements for secure speech and make it more realistic by using modern day techniques and weight to provide speed and good assurance to its customers. XSalsa20 calculator is ideal for mobile phones due to its high security, high performance and battery life. Customers can be sure that no one can read their messages, even if the cell phone gets in the wrong hands, you can't access the app and you can't access local information.

2) In 2020, R. Gayathri, C. Kalieswari and published by the International Journal of Engineering and Advanced Technology (IJEAT). This research paper contains that the chat app provides a better and more flexible program. for discussion. Developed with the latest technology in the way of providing a reliable system. The main advantages of the system are instant messaging, real-world communication, added security, group chat, etc. This app can find the best demand in the market for most organizations that aim to have private applications. Additional features will also be added to the program based on community needs that include conference call, video chat. Location sharing, etc. based on need.

3) In 2016, "Designing and deploying a real-time web-based chat server" by Diotra Henriyan, Devie Pratama Subiyanti, Rizki Fauzian and published by the International Conference on Engineering and Technology (ICSET). This research paper contains that chat app should be a real-time forum and multi-site for use by many users. The programming language used to build the Node.js server with a clear framework and MongoDB website.

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VI. PROJECT METHODOLOGY

In a chat system, clients can be mobile applications or web applications. Clients do not communicate directly. Instead, each client connects to a chat service, which supports all of the features mentioned above. Let's focus on the basic functionality.

The chat service should support the following activities:

1) Get messages from other clients.
2) Find the right recipients of each message and pass the message on to the recipients.
3) If the recipient is offline, hold the recipient's messages on the server until they are online.



Figure 2. shows the relationships between clients (sender and receiver) and the chat service

If the client intends to start a conversation, it connects to the chat service using one or more network protocols. For chat service, network protocol selection is important.

Applications are started by the client in most client / server applications. The same is true for the sender of a chat request. In Figure 12-2, when the sender sends a message to the recipient via chat service, he is using a time-tested HTTP protocol, which is the standard web protocol.

In this case, the client opens the HTTP connection with the chat service and sends the message, notifying the service to send the message to the recipient. Keeping alive works well in this regard because the topic of keep alive allows the client to maintain ongoing communication with the chat service. It also reduces the amount of TCP handshake. HTTP is a good option on the sender's side, and many popular chat apps such as Facebook used HTTP in the beginning to send messages.

However, the recipient side is much more complex. Since HTTP is client-initiated, it is no small feat to send messages from a server. Over the years, many techniques have been used to mimic server-initiated communication: voting, long voting, and WebSocket.

VII. CORE FEATURES FOR CHAT APP

Regardless of the intended use, the following aspects of the discussion will be needed to support any basic understanding of the instruction.

1) Application registration page and user verification method
2) Toad message editing field with keyboard
3) Communication window with messages sent and received clearly separated and sorted by chronological
4) List contact list for easy contact import and editing functionality • □ Ability to package and message
5) Ability to receive, translate, and convey a message
6) Notifications, statistics for unread messages, and / or message status (read / unread)
7) Saving past messages
8) User presence indicator (available, available, offline, uptime)

VIII. CHAT APP CODE LANGUAGES

Consider the pros and cons of each language, your set of existing skills, and your requirements for features, field support, and size when choosing the languages (s) to work with.

A. Back-End Language for Chat Application

JavaScript (front-end and back-end)

1) *Pros:* Node.js back-end framework is easy to learn for devs with front-end javascript experience.
2) *Cons:* Optimization based on lightweight front-end JavaScript tasks can make CPU-bound back-end Node.js tasks cumbersome.

B. Front-End Languages for Chat Application React (JavaScript)

1) Easy setup, cost-effective, open source UI layer based on JavaScript libraries

2) Overall a solid front-end language for many chat apps, especially web versions.

C. Use Guide

1) Registrations for new Members

2) Login Features

3) Chat Form

IX. RESULTS

The latter app will result in a real-time communication app that gives users easy communication. The app will have a login page where the user can register and sign in personally. The app's home page contains previous messages if available.

A user can search for another user. User can send and receive text messages. The user can create chat rooms and can search for content or information. With these chat rooms users can exchange ideas and information on a variety of topics. User ID can be hidden in these public chat rooms and with these chat room users can chat in private and in groups.

A. Registration for new Members

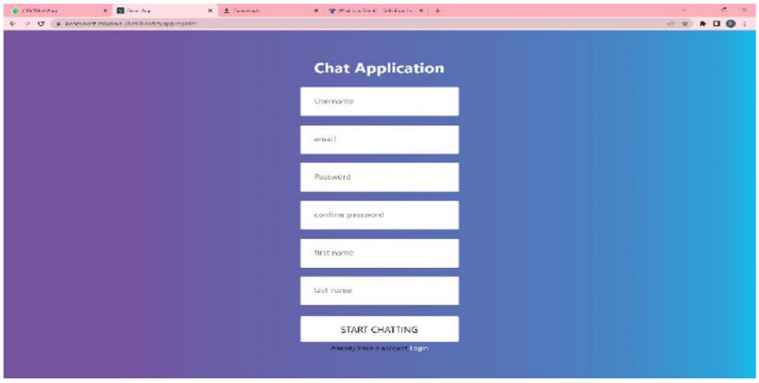


Figure 3. Registration for new member

In order to register a new user, the Chat app needs to be used to provide his or her email. Checks if the email already has a user on the website, if it does not have a user and is taken to the screen where it fills in its details including username, email, password, confirm password, first and last name. Finally, the user will now have a full active account.

B. Log in Features

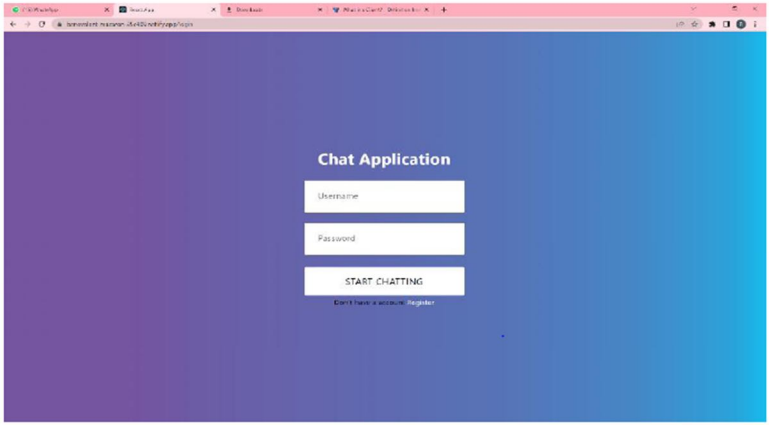


Figure. 4. Log in features

The chat app uses an login system that combines a username and password. First the username is verified to be the username. Next the user asks to continue the login process, after which you will come directly to your account.

C. Chat Form

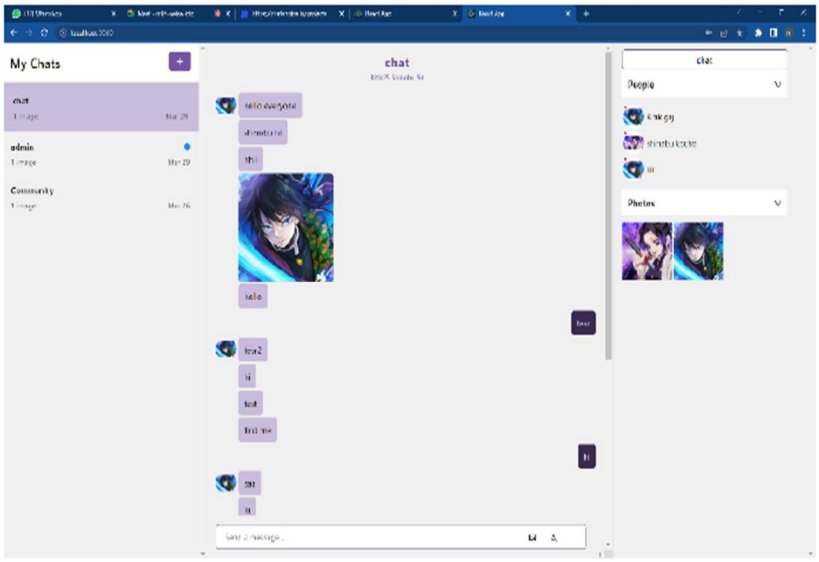


Figure 5. Chat Form

The Chat Form captures and displays the current ongoing conversation between two users of the app, this chat is not stored locally or on a live server, so a new session is created for all new events over time. The chat form has two main features which are message areas where continuous chats can be viewed and the chat form that contains the input space to send the location of new messages.
Project successfully delivered to all user-specified requirements. Care was taken during design to ensure data integrity and to avoid all types of data-related duplication. The user is verified with a very friendly interface, after which a wide range of technical details are entered. The user manual is legal just because, the project was created specifically considering the links and designs that will make users feel like they have them. he used a program like this.
The project is also structured in such a way that future changes or necessary changes can be made easily without disrupting the operation of the system. This project is used in the android area, and can be used in any version to be used by people with different levels of android device. The technical document provided in the project report will help engineers understand the internal functioning of the system.

X. LIMITATION AND CHALLENGES

The following challenges were identified after the development of the program

1) Only registered users can use the program
2) The Internet must be available to use the system

XI. CONCLUSION

The chat app provides a better and more flexible chat system. Developed with the latest technology in the way of providing a reliable system. The main advantage of the system is instant messaging, real-world communication, added security, group chat, etc. This application may find the best demand in the market for most organizations that aim to have independent applications.

XII. FUTURE SCOPE

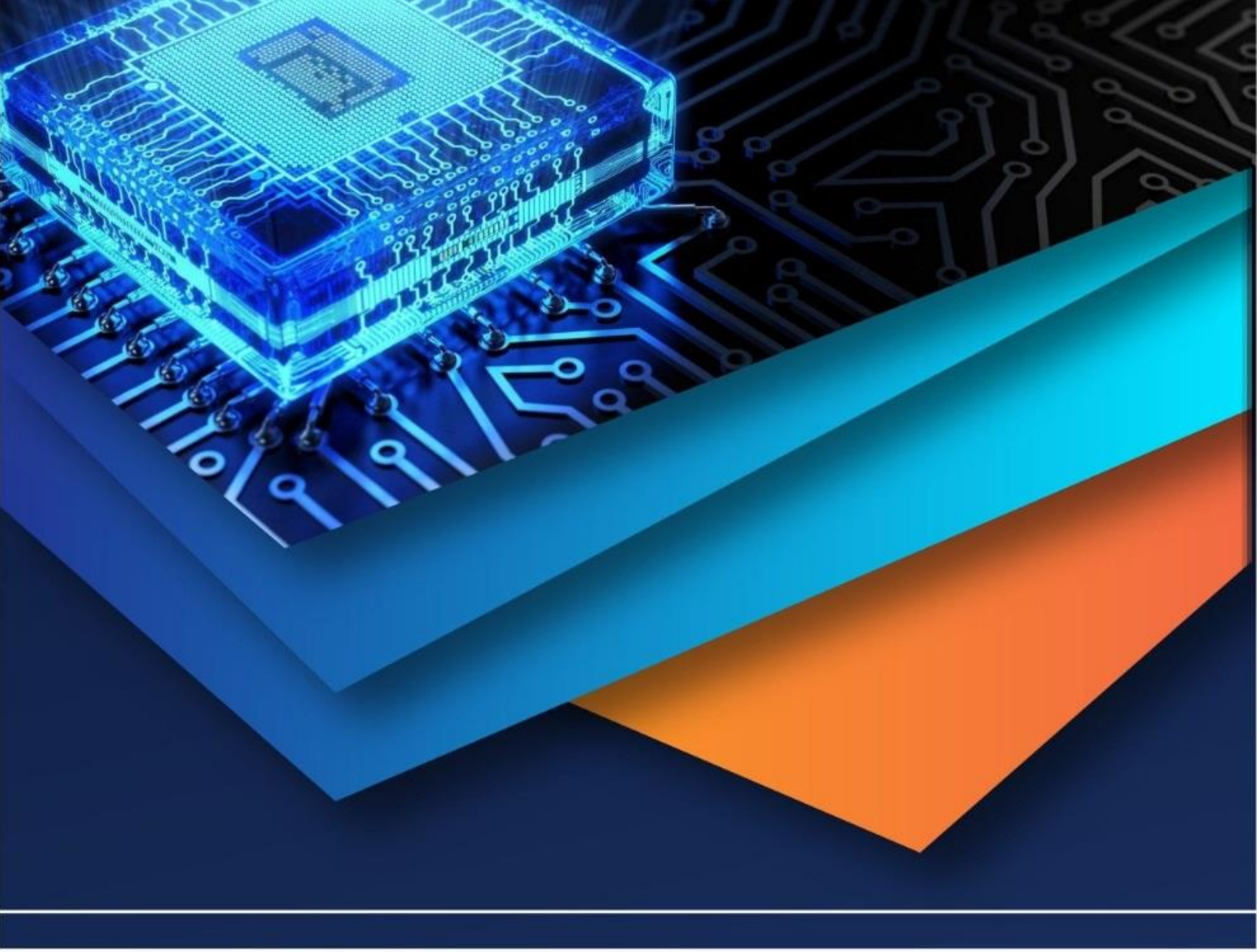
Other enhancements will be involved

1) A place of safety
2) Video call
3) large size
4) Conference call
5) Voice recording will be added
6) Improving different text style and font size.

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