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Real-Time Chat Application

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***Abstract*— Real-time chats utilises web-based applications, which allow for anonymous but typically addressed directly communication among users in a multi-user environment. As the internet has grown and improved, more and more people are preferring network chatting technologies for communication. These kinds of applications make it easier to communicate across enormous distances [3]. As a result, a chat application using React JS and MySQL is created to enable communication amongst individuals everywhere. This application also allows friends, family and colleagues to chat online. This application allows registered users, both known and unknown, to chat online with one another.**

***Keywords*— Real-time Chat Application, React JS, MYSQL.**

I. INTRODUCTION

A. Purpose

There are many devices available on the market that provide real-time Chat Application through the internet. The project's aim is to develop a React Native-based application that will enable users with an internet connection to have both private conversations [3]. This project focuses on creating a message protocol that will enable the application to correctly log in users, transmit messages, and carry out system maintenance. The main purpose of this project is to provide chatting functionality through network.

B. Problem Statement

- The goal of this project is to develop a real-time chat application that enables users to communicate with each other in real-time over a server.
- This project proposes a chat-driven online framework that enables ongoing collaboration among clients in a shared environment.
- The web chatting application, is to provide users with a much better platform that keeps texts at bay and confined within a boundary.

C. Scope

The Chat Server Application will be a text messaging programme that supports point-to-point communication between two computers. The ability to rapidly communicate within an organization is something that businesses would like to have.

II. SYSTEM DESIGN

The backend interface consists of two servers: client and server. The server side is in control of database retrieval, database maintenance, and client-side services, whereas the client side is in control of page maintenance and application interface [1].

First, communication between the client and server ends via Socket.IO, which acts as an intermediary. Socket.IO is a real-time web application event-driven library. It enables bidirectional, real-time communication between web clients and servers. It is divided into two parts: a client-side library that runs in the browser and a server-side Node.js library. Both components have nearly identical APIs. Socket.io is the most reliable instant messaging app solution. React. js is an open-source JavaScript library used to create user interfaces for single-page applications. It manages the view layer for web and mobile apps. It also enables us to create reusable user interface components. ReactJS is an open-source, component-based front-end library that is only responsible for the application's view layer. Furthermore, React Js makes front-end development very simple. In general, ReactJS offers a solid and reliable front-end language for messaging applications [2].

TABLE 2.1. HARDWARE AND SOFTWARE REQUIREMENTS

Hardware Requirements	***Software Requirements***
128 MB RAM required. Processor with speed of 500 MHz. Internet or LAN connection. Mouse, Keyboard.	Any version of Windows OS, macOS, Ubuntu. Language requirements: React Native SQL.

The procedure is as follows:

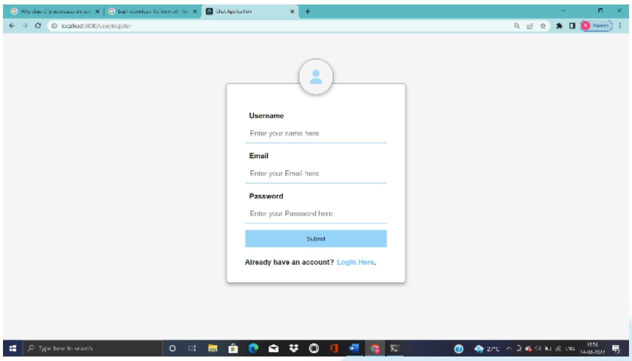
1. When you first visit the site, the main page will appear, with options for existing user login and new user signup.

If the user's information is already in the database, the user's information will be requested during the login process. If the signup option is chosen, the user will be redirected to a new user registration page, where their information will be collected and stored in the database.

2. After logging into the portal, the user can see all of the active users, or individuals who are online. Then after, the user can chat with other users, and their chat history is stored in the database.

3. And at last, users will be able to communicate with one another.

III. IMPLEMENTATION


localhost:3000/user/register

Username

Enter your name here

Email

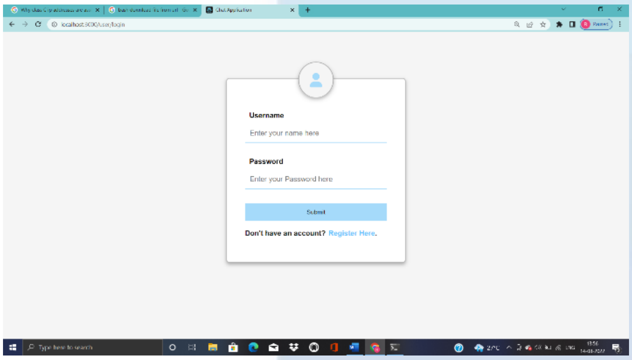
Enter your Email here

Password

Enter your Password here

Fig 3.1. Login Page

Login page mainly checks for the credentials so as to provide a secure atmosphere for the users.


Username

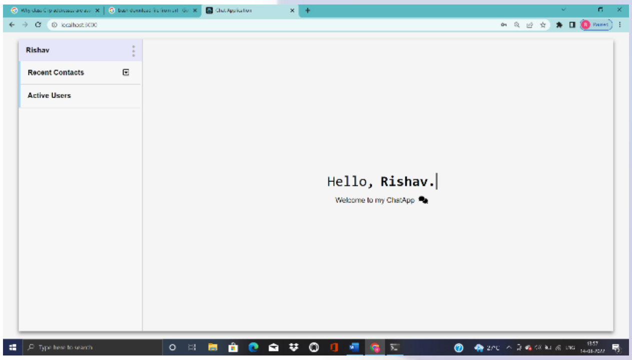
Enter your name here

Password

Enter your Password here

Fig 3.2. Signup Page

The data collected in signup page is used during the login process.

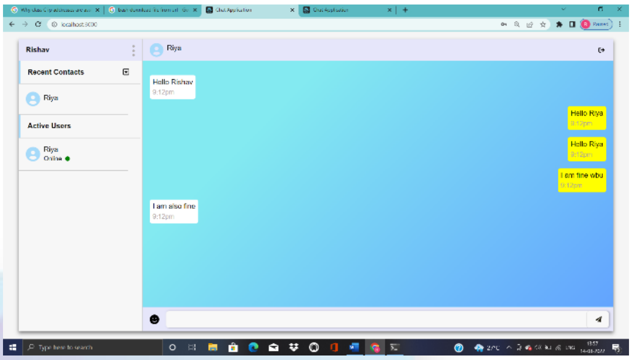


Hello, Rishav.

Welcome to my ChatApp

Fig 3.3. Welcome Page

After logging in, the Welcome Page appears where active(online) users and recent contacts can be seen.


localhost:3000

Hello Rishav 9:12pm

Hello Riya 9:12pm

Hello Riya 9:12pm

I am fine wbu 9:12pm

I am also fine 9:12pm

Fig 3.4. Chatting Window

The Chatting window provides the users the medium to chat and these chats are stored in the database.

IV. CONCLUSION

Currently, we only deal with online text communication. Thus, this project is able to develop a chat service web application with a quality user interface with React JS and MYSQL. As there is always room for improvement in applications. In the future, we can try to include features like voice messaging, video conferencing and many other services.

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