CHATAPP

Project Report

Name: Himanshu Amliyar (CE-12) [20CEUTG127]

Dhiren Chaudhari (CE-025) [20CEUTG004]

Semester: 5

Subject :

Advance Technology (AT)

Project Title :

Online Chatting Application

Guided By :

Prof. Sidhharth Shah & Prof. P. M. Jadav

Faculty of Technology Nadiad

INDEX

Project Description

- **Brief introduction:**
  - Chatting Application Website , is mainly developed for chatting.

  - Chatting application is an application where users can create their account and connect to other people .

  - Users can set a profile picture on their account.

  - Users can send a message to other users.

  - Users can also send emoji to other users.

Tools and Technologies :

- **Technology :**
  - MERN Stack
  - React
  - Node
  - Express
  - MongoDB Atlas (cloud support)

- **Tools:**
  - Visual Studio

Software Requirement Certificate (SRS)

Functional Requirements:

1. Register a user :

R.1.1 Sign up

Description: This function lets users register in the system and add the details of the user (username, email, password, confirm password).
Input: User details
Output: Confirmation

R.1.2 Log in

Description: Login functionality lets users log into the system , by providing credentials (username,password).
Input: Login credentials
Output: Confirmation

R.1.2 Log out

Description: logout function lets users log out from the system.
Input: user selection
Output: Confirmation Message

2. Set Avatar/Profile picture :

R.2.1 Set Profile picture

Description: User can select a profile picture from a given avatar .reload page and avatar will be changed.

Input: Choose avatar

Output: Set Avatar

3. Send Message :

R.3.1 Send message :

Description: User can send a text message to other users.

Input: Type message

Output: Message sent

4. Send Emoji :

R.4.1 Send Emoji :

Description: Users can send emoji with text or without text.

Input: Select Emoji

Output: Emoji sent

Non - Functional Requirements:

N.1 Database : A suitable database management system that is secure and fast to manipulate data efficiently.

N.2 Maintaining Performance : Good graphical user interface and good performance in network traffic and stress testing.

N.3 Security : System ensures to preserve and protect information of users and manages the access-control activities at database level.

Database Design :

- Technology :
  - MongoDB Cloud Atlas Service Cluster
  - Mongoose LIbrary for schema and aggregation management interface.

- Database saves users details.
  - Email
  - Username
  - Password

- Schema Design :

  User Schema :-

  _id: objectId(‘’)random generated id

  Username: username of the user

  Email: email of the user

  Password: encrypted password of user

  isAvatarImageSet: true/false

  avatarImage: Image user has selected

Application Logic :

- Set Avatar :
  - Users can set their profile picture .
  - Users can only select the avatar photo from the given.
  - If Users refresh the page then a new avatar photo is updated.

- Chatting :
  - In our application a user sends a message to another user which is available in the database.
  - Users can also send emojis in chat.
  - Our application is very user friendly , fast and smooth to send and receive messages .

Testing :

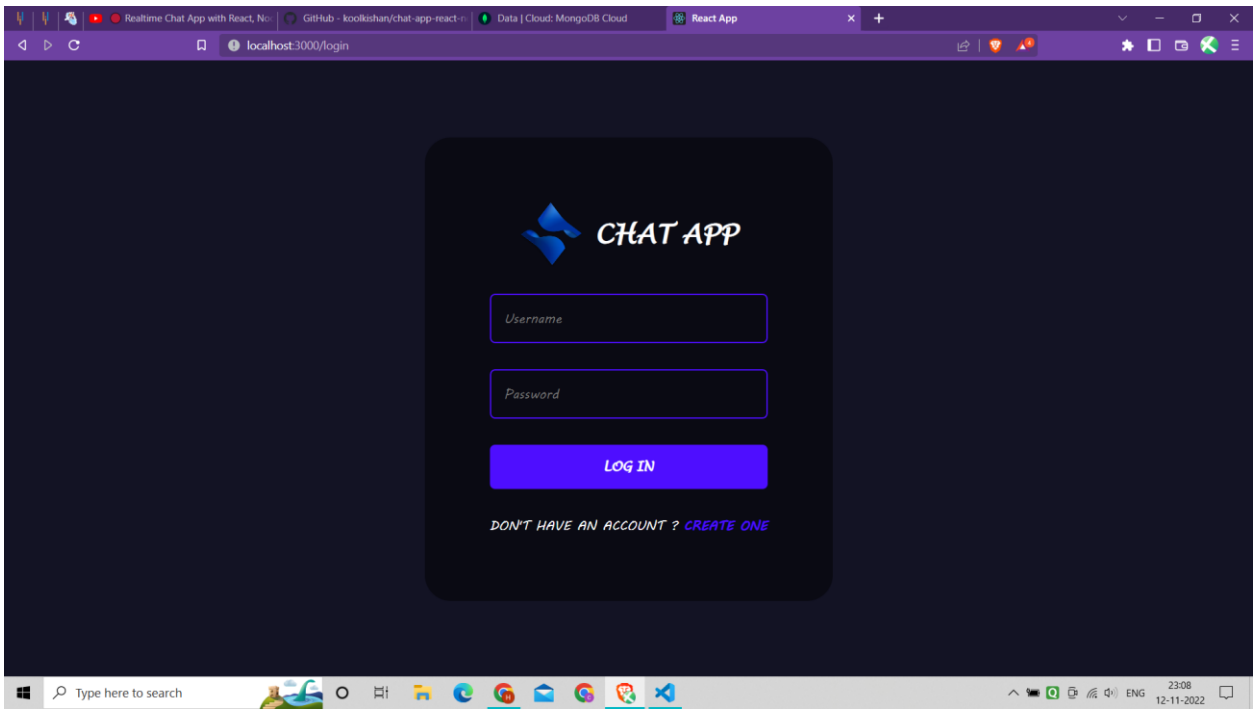
Test Cases For Chat Application :

Some of the Positive and Non-Functional Test Cases/Scenarios of Chat Application/Functionality whether it is a web application .

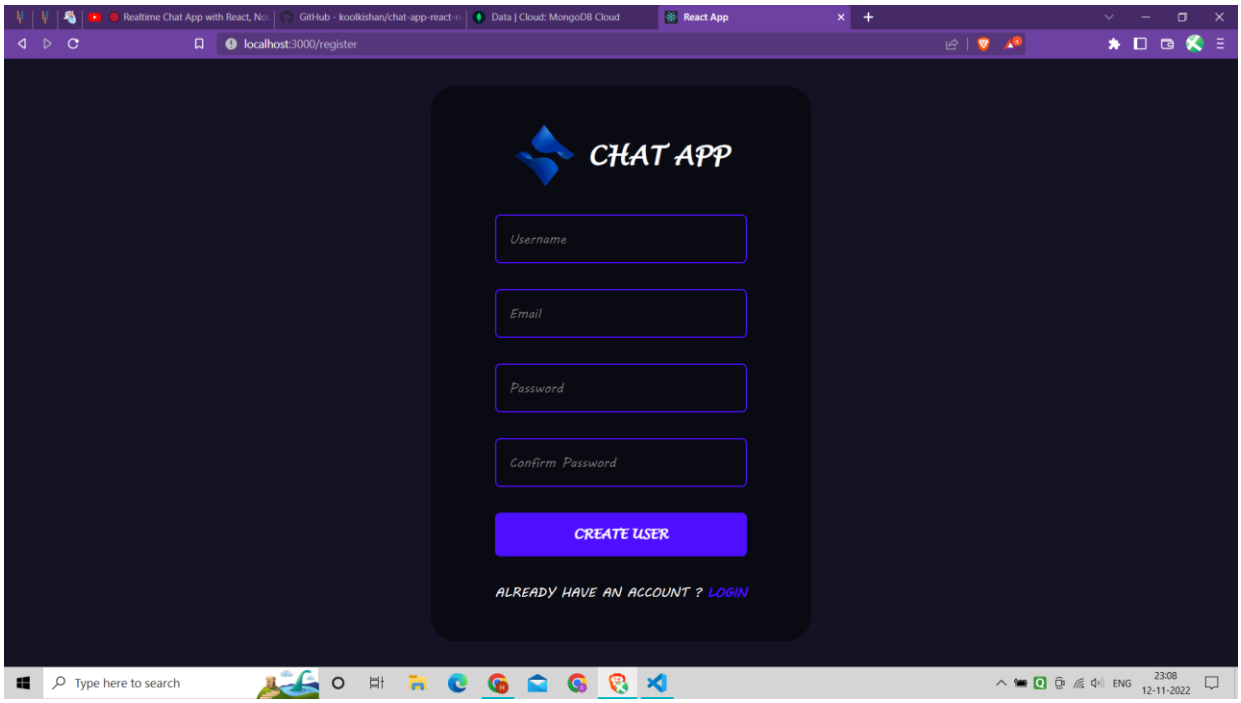
- Verify there is a minimum of two Users who should be available for the chat.
- Verify there are a minimum of two devices (Desktop, Laptop, Phones, etc) that should be available.
- Verify that the Chat application should be launched or evoked.
- Verify that Users are able to send requests to other Users for a chat or not.
- Verify whether the user is able to create an Account in the Chat application or not.
- Verify whether the user is able to log in to a Chat application or not.

Screen Shots :

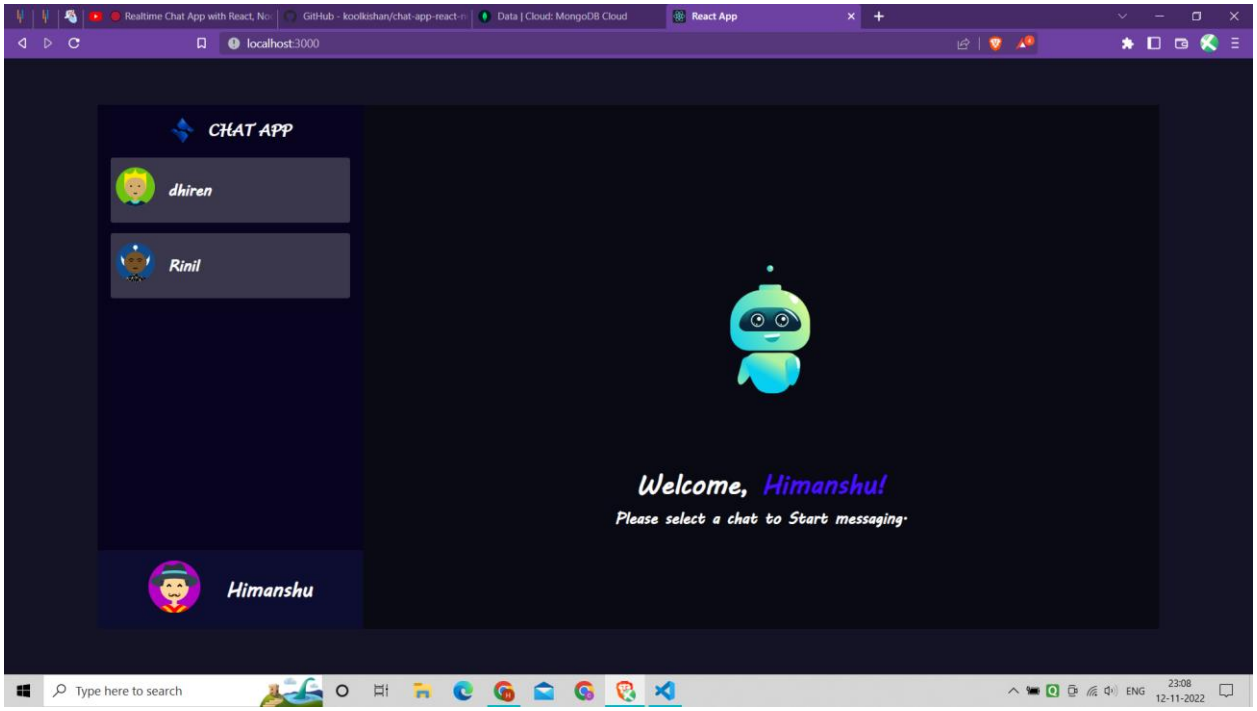
(A) Login Page



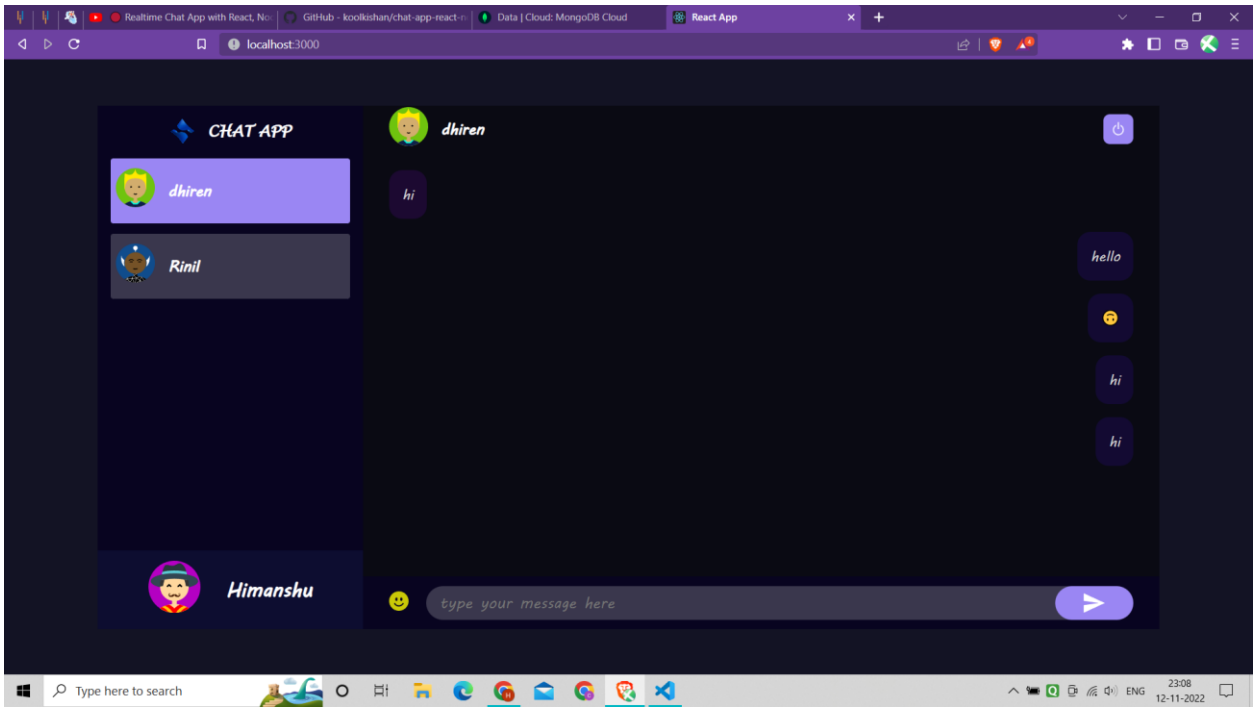
(B) Registration Page



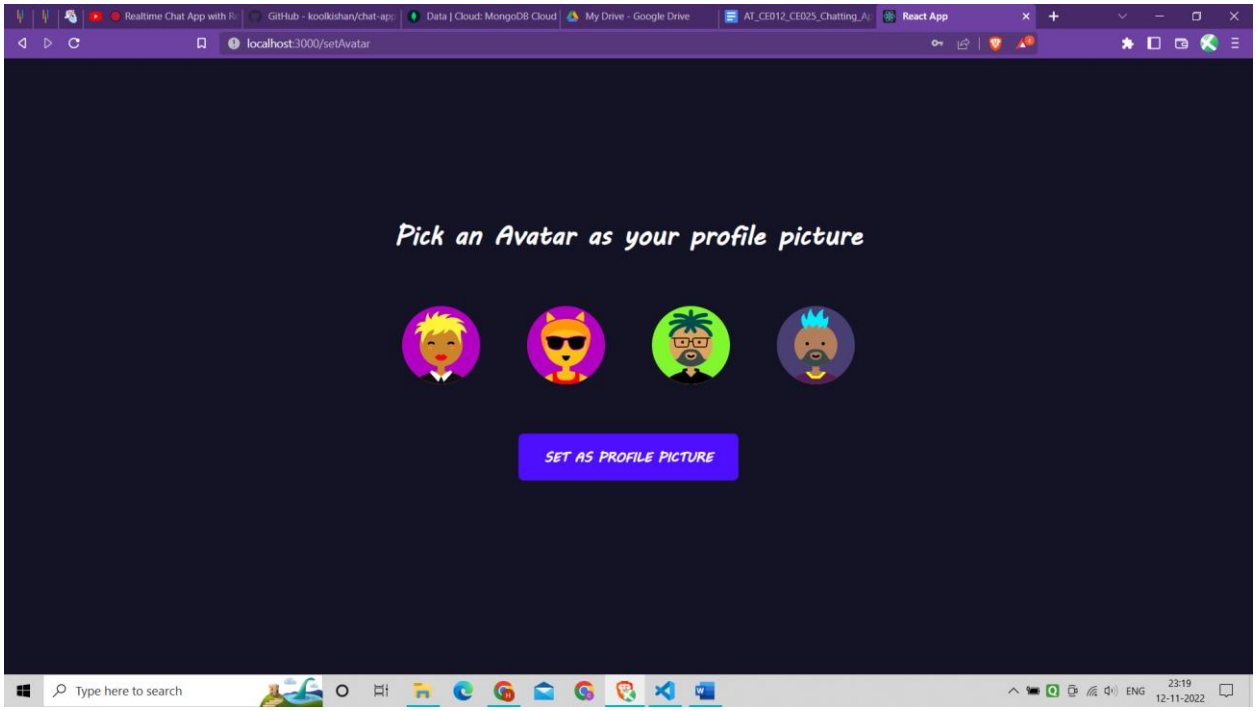
(C) Account Preview Page



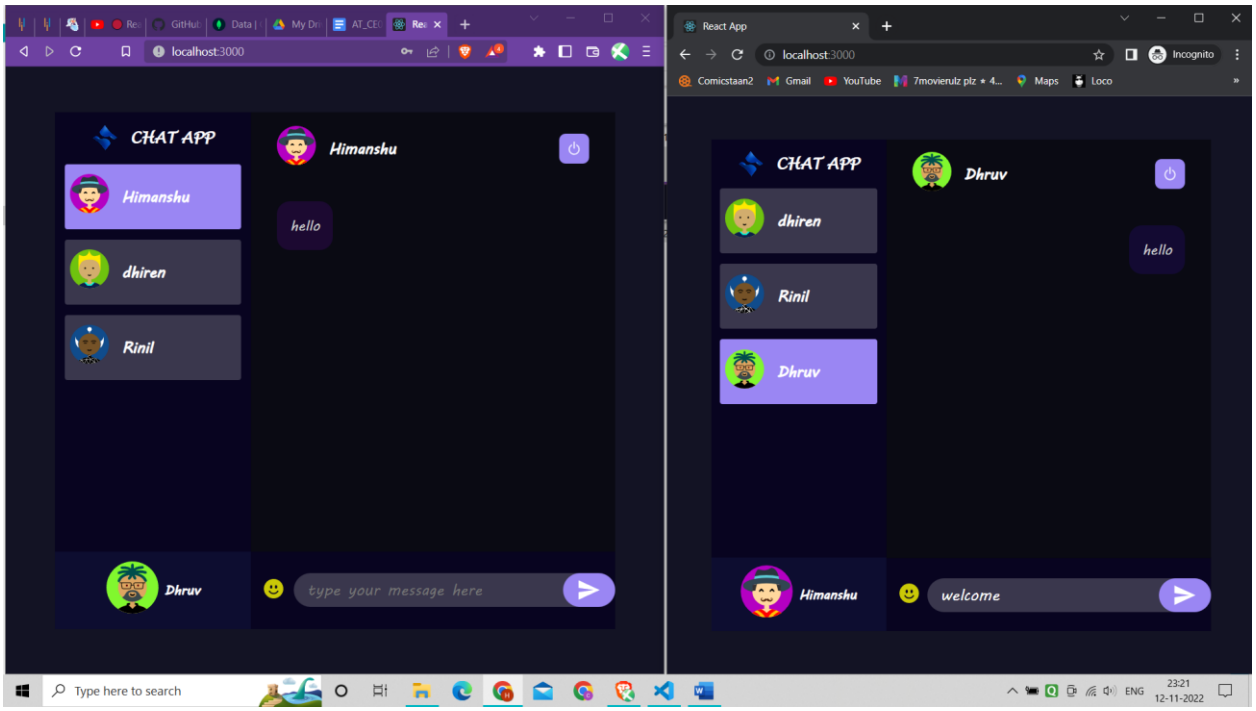
(D) Chatting Page

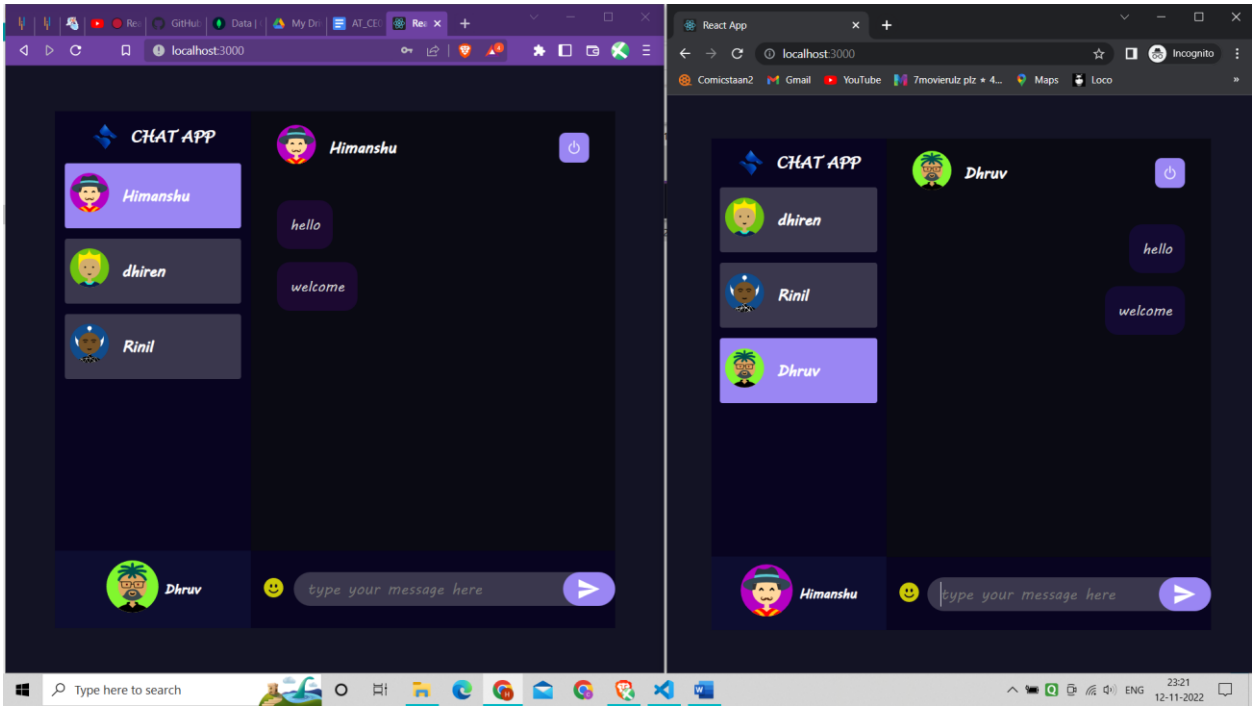


(E) Avatar Selection Page



(F) Two Users Chatting





Conclusion:

- By tying all these together, I believe that chat applications make it easy to communicate with people anywhere in the world by sending and receiving messages in real time. With a chat app,users are able to receive the same engaging and lively interactions through custom messaging features,just as they would in person.

Limitation and Future Extension :

- Limitation :
  - Users can only do one to one chat at a single time.
  - Users can only send a text message and emojis.
  - Users can’t do group chats .
- Future Extension :
  - Users can send images in chats.
  - Users can search other Users by the search button.
  - Users can do group chats.
  - Users can get a notification.

Bibliography :

Documentation | Node.js (nodejs.org)

Getting Started – React (reactjs.org)

YouTube

MongoDB Atlas: Cloud Document Database | MongoDB

Express - Node.js web application framework (expressjs.com)