Project Report

on

ROOM CHAT

(HAVE IT YOUR WAY)

Submitted by

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Under the guidance of

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DECLARATION

We hereby declare that the report of the B.Tech Minor Project Work entitled “ROOM CHAT(HAVE IT YOUR WAY)” which is being submitted to Rajiv Gandhi University of Knowledge Technologies, RK Valley, in partial fulfillment of the requirements for the award of Degree of Bachelor of Technology in Computer Science and Engineering, is a bonafide report of the work carried out by us. The material contained in this report has not been submitted to any university or institution for award of any degree.

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CERTIFICATE

This is certify that the project entitled "ROOM CHAT(HAVE IT YOUR WAY)" submitted by Mahammad Tippu Sulthan Shaik-R170444, Baba Fakruddin Babanbai-R170846, Afzal Kamanuru-R170453, under our guidance and supervision for the partial fulfillment for the degree Bachelor of Technology in Computer Science and Engineering during the academic semester -1 2020-2021 at IIIT ,RK VALLEY RGUKT-AP.To the best of my knowledge, the result embodied in this dissertation work have not been submitted to any University or Institute for the award of any degree or diploma.

Project Internal Guide

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ACKNOWLEDGEMENT

We would to express our sincere gratitude to madam Ms.SHABANA SHAIK our project Supervisor for valuable and keen interest throughout the progress of our project. We are grateful to Sir P.Harinadha, Head of the Department CSE for providing congenial atmosphere for progressing with our project. We extend our sincere gratitude to the department of Computer Science and Engineering. My sincere thanks to all who have supported me to gain knowledge about actual working involved in various technologies.

Abstract

Chat refers to the process of communicating and interacting, exchanging messages over the internet. It involves two or more individuals that communicate through a chat enable service or software. This very day group chat became very common in many organizations that includes companies, colleges etc. A group of people communicate through this group chat application. It is just like a mini teams app.A chat application has basic two components, viz server and client.A server is a computer program or a device that provide functionality for other programs or devices. Clients who want to chat with each other connect to the server.The chat application we are going to make will be more like a chat room , rather than a peer to peer chat. So multiple users can connect to the chat server and send their messages. Every message is broadcasted to every connected chat user.

Contents

1.Introduction

Description:

Our project entitled ROOM CHAT (HAVE IT YOUR WAY) , is an application which is used for group chat. The chat application we developed will be more like a chat room where multiple users are able to chat over there , rather than a peer to peer chat. So multiple users can connect to the chat server and send their messages. Every message is broadcasted to every connected chat user.

Purpose:

The purpose of this project is to design a chat application, also known as an instant messaging system. The main purpose of the software is to provide users with an instant messaging tool that can handle more users simultaneously when needed and can be easily done.

Scope:

As this world is into the internet and nothing happens without it. This application will have huge impact. It can reach people. Private organizations like IT parks, Colleges, Institutions prefer to have separate chat applications over public one. Hence this application can be implemented over there. Thus, this application has a huge impact over the people, mostly in private networks. This provides good scope for developing a better application with additional features than other traditional ones in the world.

2. TECHNOLOGIES

HTML:

HTML(Hyper Text Markup Language) is the code that is used to structure a web page and its content.For example,content could be structured within a set of paragraphs,a list of bullet points or using images and data tables.As the title suggest this article will give you a basic understanding of html and its functions.HTML is a markup language that defines the structure of your content.HTML consists of series of elements,which you use to enclose or wrap ,different parts of the content to make it appear a certain way.The enclosing tags can make a word or image hyperlink to somewhere else,can italicize words,can make the font bigger or smaller and so on.

CSS:

CSS stands for cascading styles sheets .It is a style sheet language which is used to describe the look and formatting of a document written in markup language. It provide an additional feature to HTML. It is generally used with HTML to change the style of web pages and user interfaces. It can be used with any kind of XML documents including plain XML ,SVG and XUL. CSS is used along with HTML and JavaScript in most websites to create user interfaces for web application and user interfaces for many mobile applications.

NODE.JS:

Node.js is an open-source, cross-platform, back-end JavaScript runtime environment that runs on the V8 engine and executes JavaScript code outside a web browser. Node.js lets developers use JavaScript to write command line tools and for server-side scripting running scripts server-side to produce dynamic web page content before the page is sent to the user's web browser. Consequently, Node.js represents a "JavaScript everywhere" paradigm unifying web-application development around a single programming language, rather than different languages for server-side and client-side scripts.

EXPRESSS.JS:

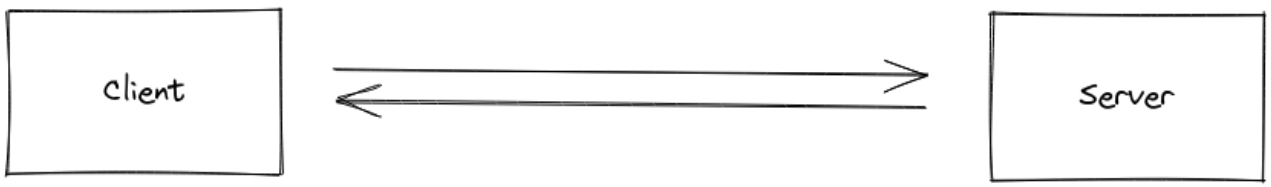
Express is a node js web application framework that provides broad features for building web and mobile applications. It is used to build a single page, multipage, and hybrid web application.It's a layer built on the top of the Node js that helps manage servers and routes.

Express was created to make APIs and web applications with ease,
• It saves a lot of coding time almost by half and still makes web and mobile applications are efficient.
• Another reason for using express is that it is written in javascript as javascript is an easy language even if you don't have a previous
• knowledge of any language. Express lets so many new developers enter the field of web development.

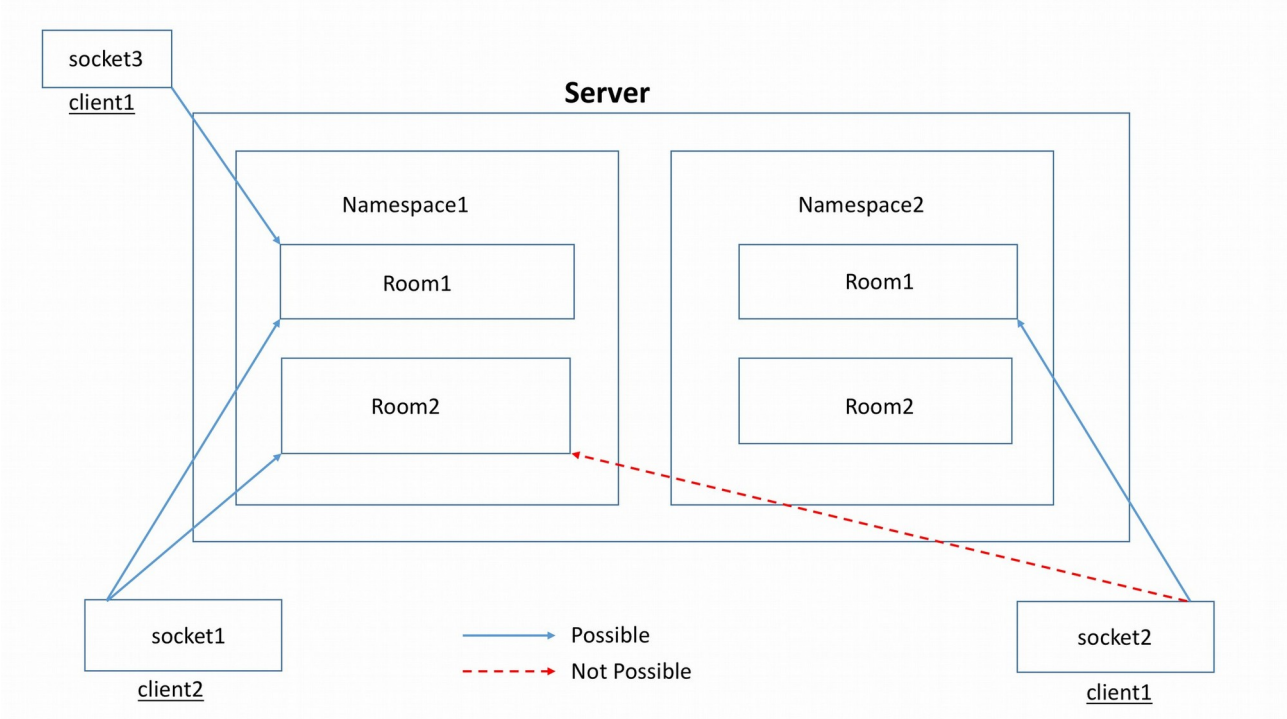
The reason behind creating an express framework for node js is:
• Time-efficient
• Fast
• Economical
• Easy to learn
• Asynchronous

SOCKET.IO:

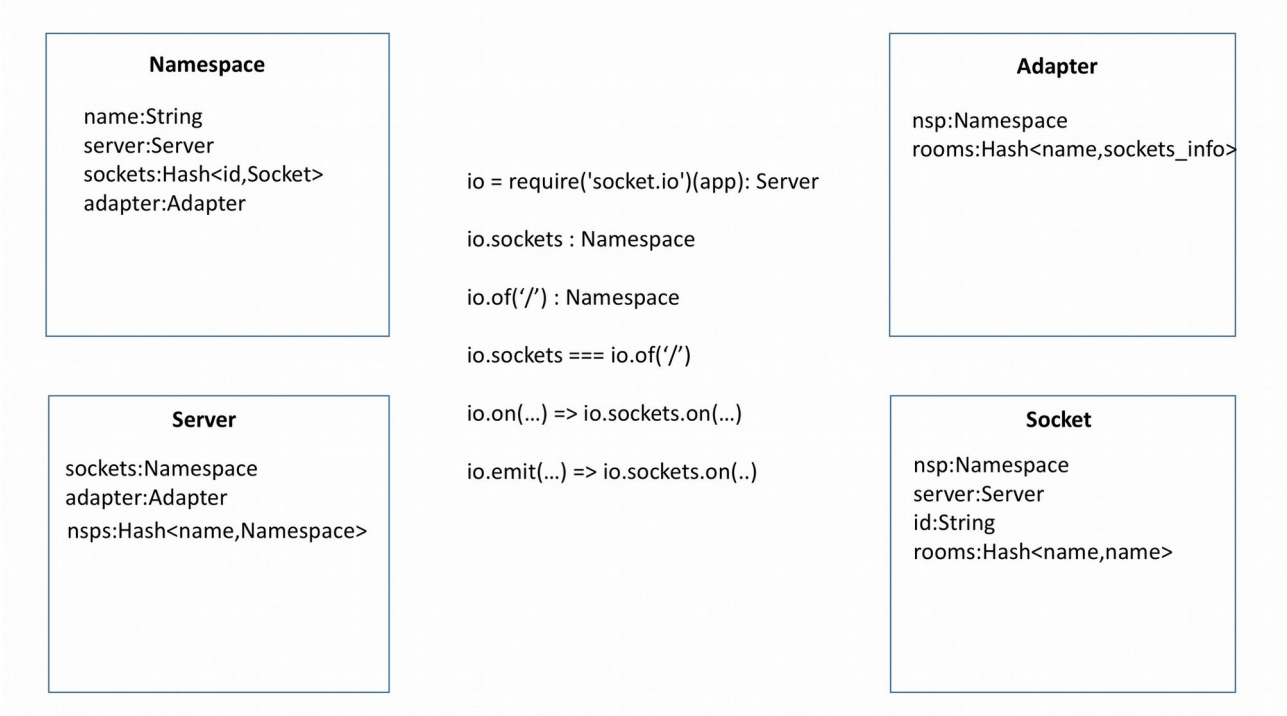
Socket.IO is a library that enables low-latency, bidirectional and event-based communication between a client and a server.It is built on top of the websocket protocol and provides additional guarantees like fallback to HTTP long-polling or automatic reconnection. WebSocket is a communication protocol which provides a full-duplex and low-latency channel between the server and the browser. More information can be found.



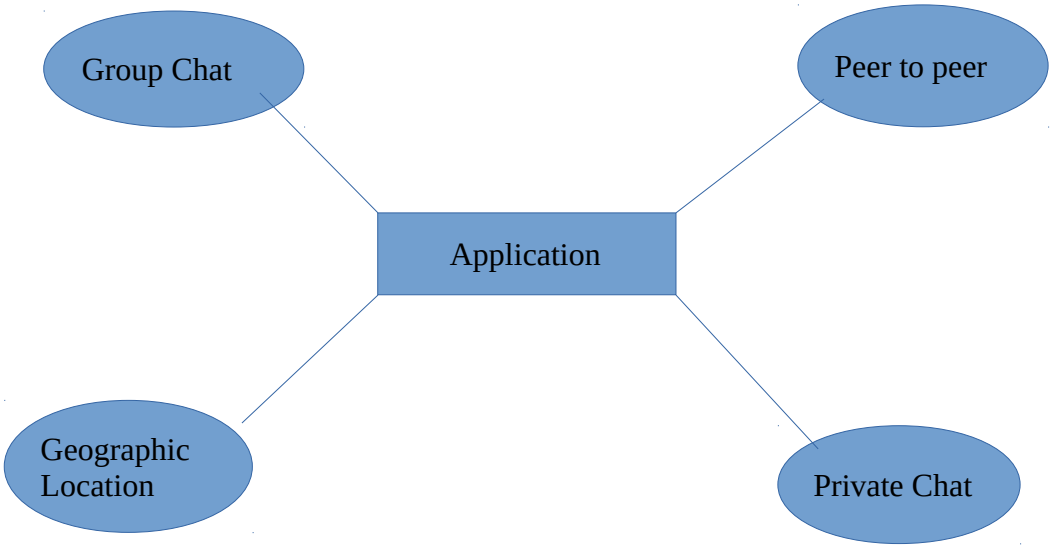
System design:-



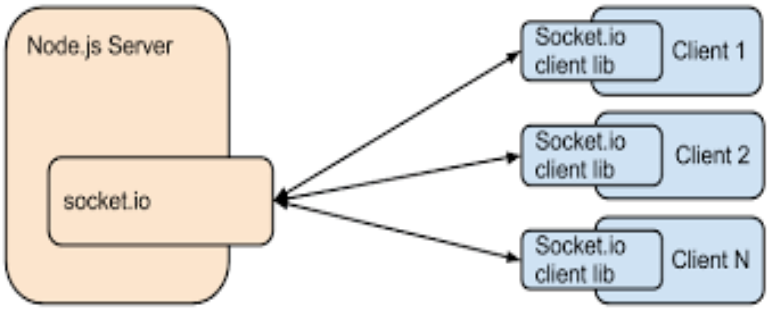
Class diagram:-



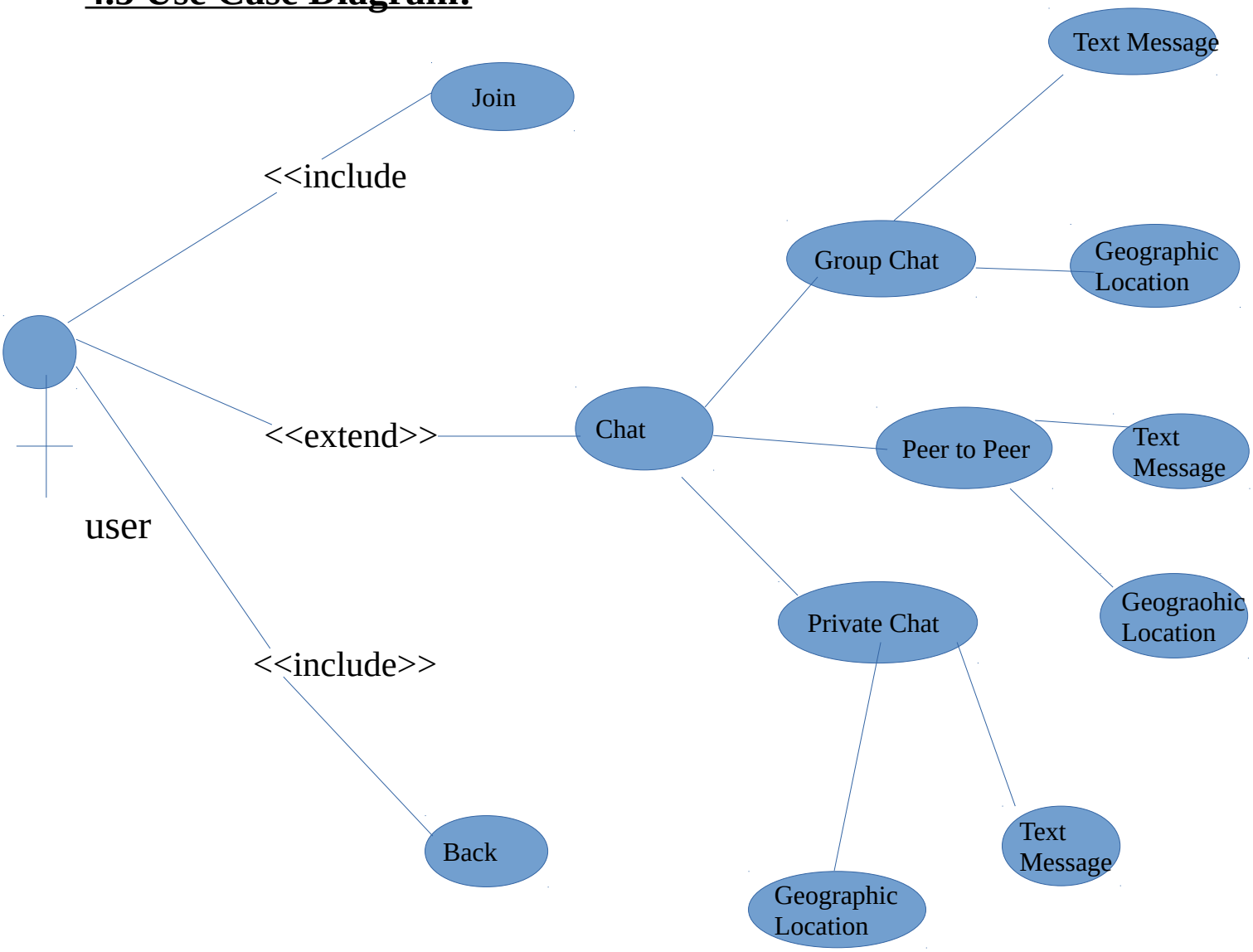
Context Diagram:



Data Flow Diagram:

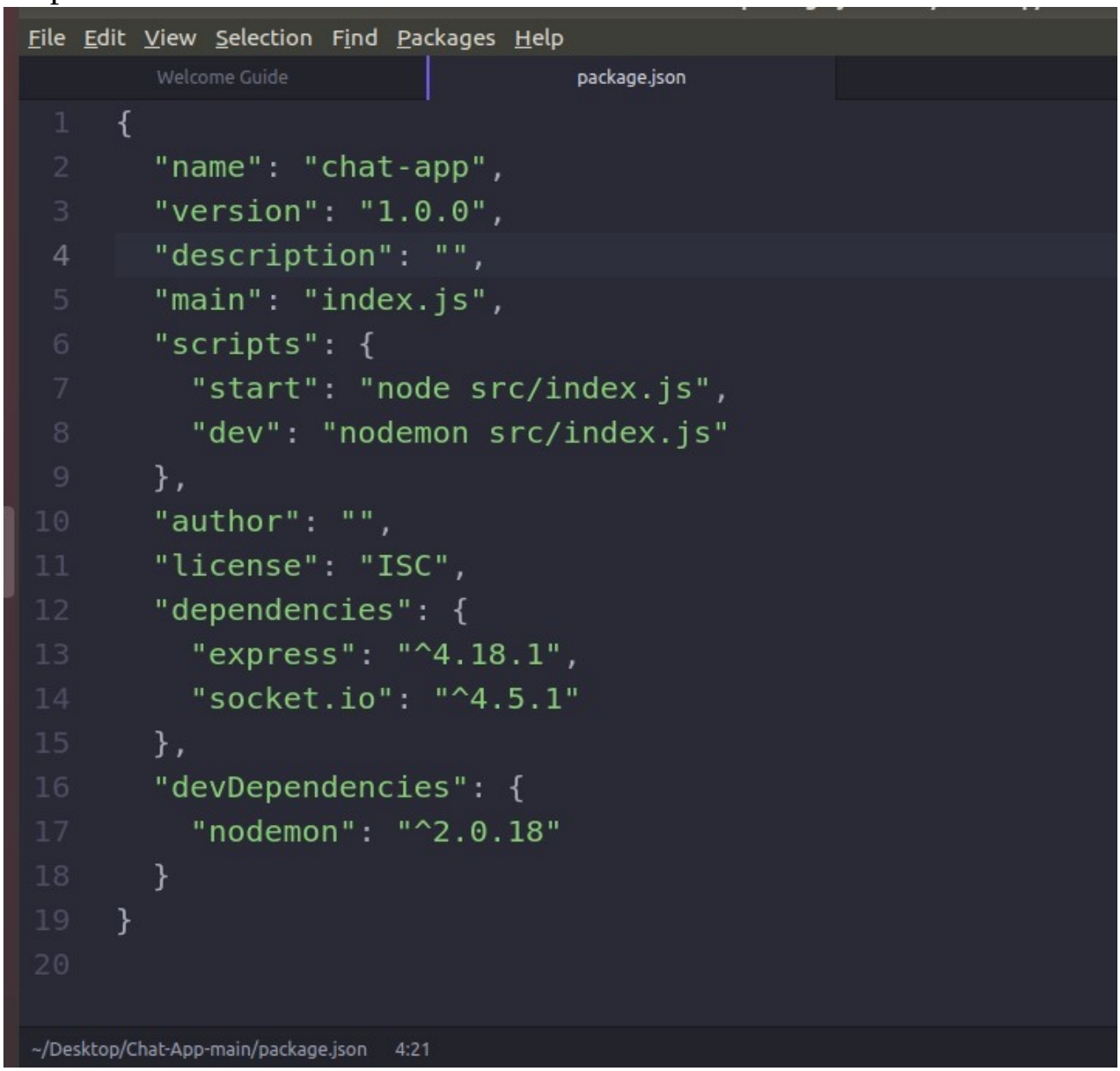


4.5 Use Case Diagram:



5.Coding Or Implementation:

1.Open the code in your code editor.
2.To install all the dependencies (listed in package.json file) in your project, go to terminal and type the following command and hit enter:
3.npm install



Scripts :-

```
"scripts": {
  "start": "node src/index.js",
  "dev": "nodemon src/index.js"
},
```

DevDependencies :-

```
"devDependencies": {
  "nodemon": "^2.0.18"
}
```

Dependencies:-

```
"dependencies": {
  "express": "^4.18.1",
  "socket.io": "^4.5.1"
},
```

6.Testing :-

Here we performed two types of testing to the software for finding

1.Functional Testing:

We tested main features like testing each and every module like join, send message, send location and status.

a)Integration Testing:

Here,the data flow is tested.For example,if we take join module by entering valid credentials it redirects to the respected user's Dashboard. It is done to the all created modules.

b)System Testing:

Here,the end to end testing is done on application from entering credentials, navigating to the all modules such as user dashboard, details of the user, status etc...

2.Non Functional Testing:

Here we tested the Non-functional features like Compatability,Performance and Adhoc Testing.

a.Compatability Testing:-

Here We tested this software on Various Operating System Such as Linux, windows etc...

b.Performance Testing:-

Here we tested the speed,efficiency.The software is given accurate results when the user enters the data.

c.Adhoc Testing:-

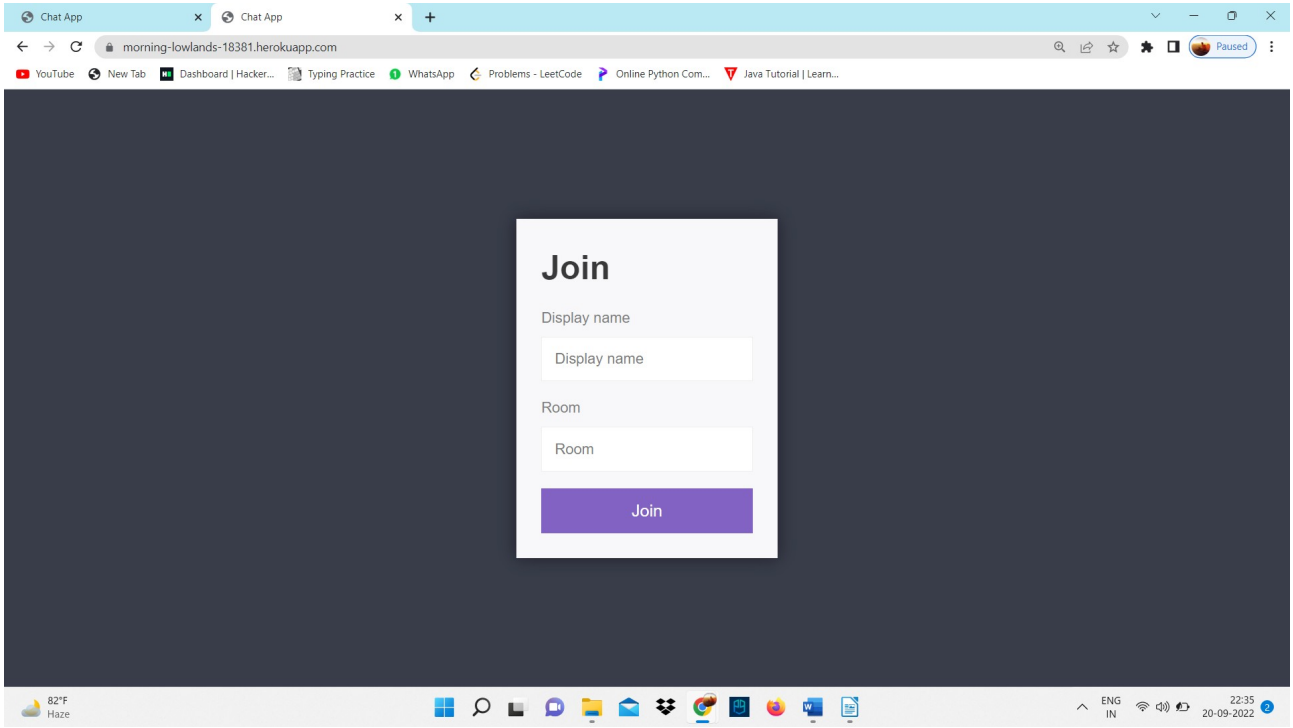
Basically,Adhoc Testing means Testing the software Randomly because every user enters the data differently. So We perform Random testing to our software in order to achieve users perspective.

Test case:-

- 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 how many words or characters can be sent at a time.
- Verify that the Status (Active, Inactive, Invisible, etc.) of the User is changing or not.
- Verify whether the user is able to join the Chat application or not.
- Verify that the User is able to join the system simultaneously with two or more different IDs or not.
- Verify that the User is able to send messages to other offline Users.
- Verify whether the user is able to send special characters in Chat or not.
- Verify that Users are able to create a Chat group or not.
- Verify that Users are able to Chat with their group or not.
- Verify that Users are able to see current Chat/discussion in the group.
- Verify that Users are able to see the Chat history of the group or not.

- Verify that Users are able to join current Chat/discussion in their group.
- Verify that Multiple Users can do Chat or discussion in their group simultaneously and every Chat should be visible to every member of the group.
- Verify that name of the User should be displayed to others in the Chat application while chatting with other Users or groups.
- Verify that whenever any member joins or leaves the Chat/discussion then it should be notified in the group and is visible to every member of the group.
- Verify that the User is able to share hyperlinked URLs, Emails, or not.
- Verify that the User is able to Chat in any language with the Users if that language is locally identified and registered by the governing body or not.
- Verify that the User is able to Chat in any language to the Users if that language is globally identified or not.
- Verify that the Chat application is able to display which device has been used to send messages or not..
- Verify that the User is chatting with only original Users not any bot.
- Verify that the User is able to send any emojis or not.
- Verify whether the User is able to use Copy and Paste functionality in Chat functionality or not.
- Verify that the User is able to chat with two or more different devices with one ID at a time to another user or in a group.
- Verify that “A User is able to join into two different devices at a time or not?”
- Verify that “How much time is it taking to send a message from one user to another?”
- Verify that “How much time is it taking to send a message in a group?”
- Verify that “How much time is it taking to send a message from one User to another if the internet is weak?”
- Verify that “How long a chat can be saved?”

7.Output: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New Tab
Dashboard | Hacker...
Typing Practice
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Problems - LeetCode
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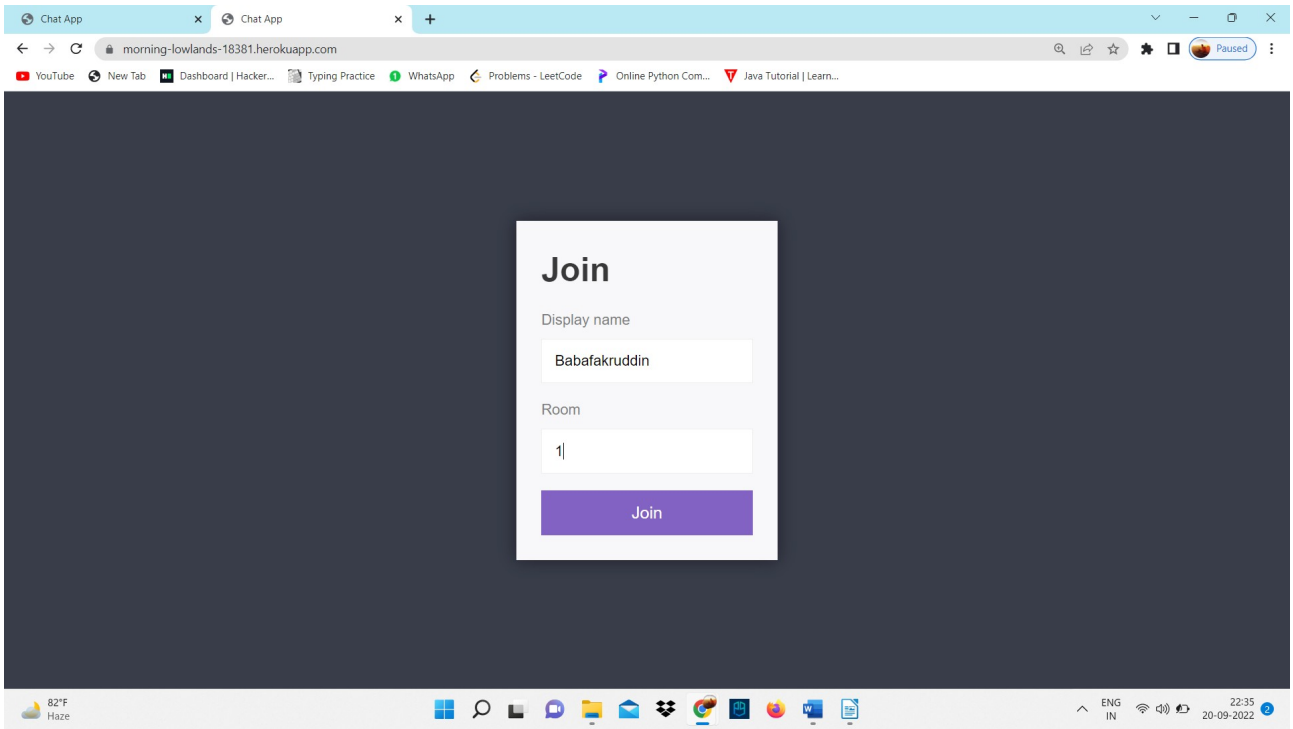
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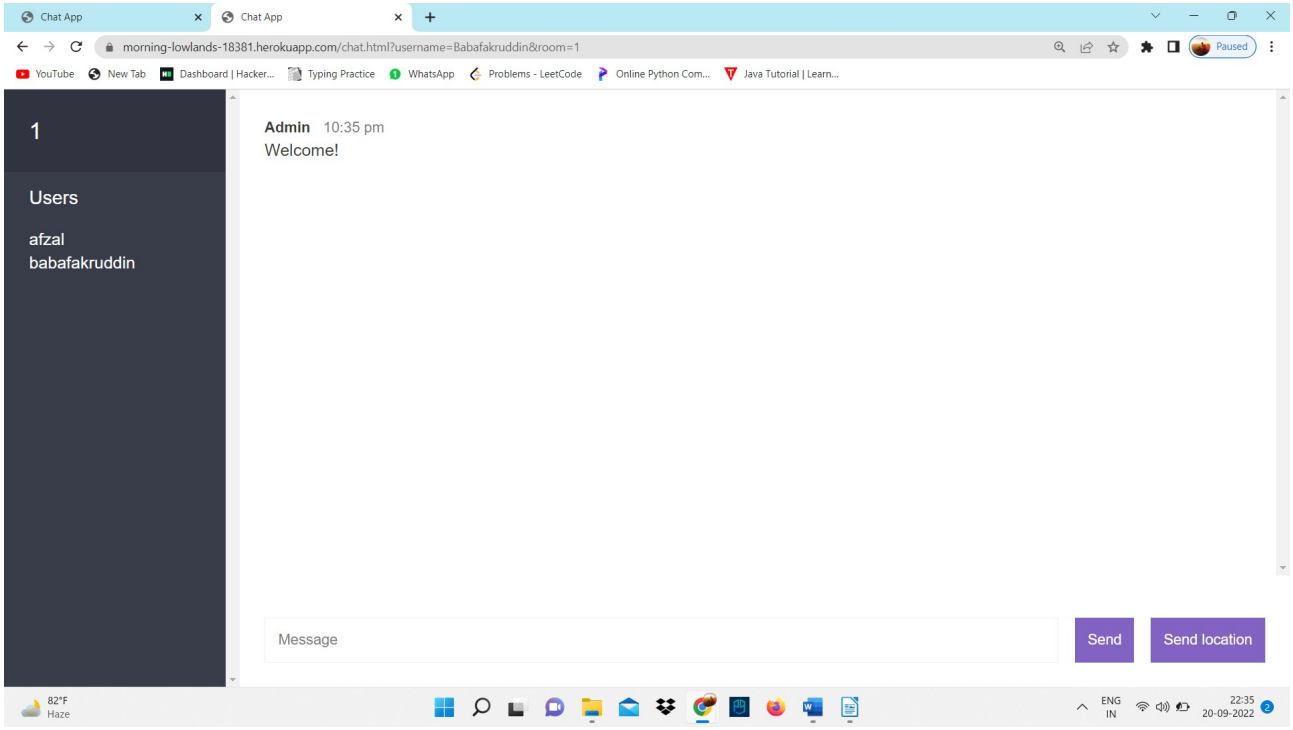

8.Deployment:

Application Deployment,also known as **Software Deployment,**is the process of installing,configuring,updating,and enabling the application that makes a software system available for use,like facilitating a certain URL on a server.

1.Upload files in git:

git init
git add <folder1><folder2><etc.>
git commit -m “Your message about the commit”
git remote add origin https://github.com/yourUsername/yourRepository.git
git push -u origin master
git push origin master

2.Integrate to deploy with a hosting website:

Heroku is a free hosting service for hosting small projects.Easy setup and deploy from the command line via git.

- Create an account on https://heroku.com/
- Install the Heroku CLI on your computer
- heroku create
- git push heroku master
- heroku open

Future Scope

With the knowledge we have gained by developing this application, we am confident that in future we can make the application more effective by adding this services.

Extending this application by providing authorization, service, creating database and maintaining users.

Increasing the effectiveness of the application by providing voice chat. Extending it to web support.

Conclusion

The main objective of the project is to develop a Secure Chat Application. We had taken a wide range of literature review in order to achieve all the tasks, where we came to know about some of the products that are existing in the market. We made a detailed research in that path to cover the loop holes that existing systems are facing and to eradicate them in our application.In the process of research, We came to know about the latest technologies and different algorithms.

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