Assignment Name - Group Chat application

Problem Statement -

As a solution to this problem statement, you have to create a REST API and socket application and frontend application in which multiple users can chat inside a group.
The Application should have following features on both frontend and backend.
You have to create an intuitive frontend application using Angular-

1) **User management** - Login, signup and forgot password functionality. You may use nodemailer module for sending out emails such as welcome email, password reset email etc.

2) **Chat rooms management** - User should be able to create a chat room and share the link via email. He should also be able to delete a chat room, mark it as closed(inactive) and perform basic edits such as changing the title of the chat room.

3) **Join chat rooms -** There will be two ways to join a chat room -
    a) Via invite link - If a particular user clicks the invite link sent by another email, he will be allowed to join the chat room
    b) Via list of active chat rooms - User should be displayed a list of active chat rooms (the ones that have not been closed). When user clicks a chat room, he should see an option to join the room. Once he clicks on that join button, he should be added to that chat room. Please note that no permission is required to join a chat room. Anyone can join any active chat room.

    All the users in chat room should be informed when a new user joins/leaves the room.

4) **Message in the chat room -** User should be able to chat with other users of chat room in realtime. There should be an option displaying who is currently typing a message(take ideas from WhatsAPP) and user should be able to view all the previous chat in that room.

5) **Documentation -** All the APIs and Events must be well documented using apiDoc

Here are some important points -

1. Strictly follow the project structure taught to you in the level.
2. You have to create a frontend application as well using Angular. Follow the guidelines taught in the Advance Angular level.
3. Create your Models very carefully and with proper thinking
4. Create middlewares and libraries wherever required. You should also include the default middlewares and libraries described in the level.
5. Handle all the possible errors and make sure your application is not crashing.
6. Your submission must contain proper API documentation as taught in the level
7. Do not submit node_modules folder. Delete it from your submission. Just make sure your package.json file contains the list of all the modules you use. The mentor will run npm install using that package.json only.

Evaluation Basis

This project will be evaluated on following basis -

1) **JS code -** Your JS code should follow the best practices taught to you in the level and should use modern javascript as much as possible.

2) **Intuitive Thinking, Creativity and Design -** You will get marks for intuitive thinking, creativity and design. So try to be as creative as you can from design perspective. Your design must be fully responsive as well.

3) **Angular Code -** Your Angular code should follow the best practices taught to you in the level.

4) **NodeJS and ExpressJS code -** Your NodeJS and ExpressJS code should follow the best practices taught to you in the level. You should also follow the application structure given in the videos.

5) **Originality of code -** Your code will be checked for plagiarism and if it's not original, it will be discarded with a negative skill score.

Deliverables from Candidate

1) A Text File containing the link of Github repository containing all your code along with additional resources(if any) and documentation of your API

Warning - Do not submit incomplete or wrong assignments. They will result in negative skill score. Also, you will not a get a second attempt at the assignment! So whatever score you get will be the final score