Backend Developer Test

Time Duration: 4 Hours

Instructions:

- This test assesses your proficiency in backend development, emphasizing authentication, real-time chat functionality, search features, and security practices.
- Choose Node.js as your programming language and employ any database of your choice. Demonstrate your skills in crafting efficient and secure APIs.
- Use proper coding standards and best practices in your solutions.
- Ensure that your code is well-documented.

Task 1: Authentication APIs

Implement a user authentication system with the following features:

- User Registration (Signup)
- User Authentication (Login)
- Password encryption using bcrypt
- Session management with passport.js

Task 2: Real-time Chat APIs

Develop real-time chat APIs with the following functionalities:

- Sending and receiving messages in real-time
- Storing chat messages in the database
- Implementing WebSocket or a suitable technology for real-time communication

Task 3: Chat List API

Create an API endpoint to fetch the list of chat conversations for a user.

Task 4: Search Feature

Implement a search feature similar to WhatsApp:

- Search should include users and messages
- Display relevant results based on user input

Task 5: 'Delete for Me' Feature

Implement a feature to allow users to delete their own messages.

Task 6: 'Delete for Everyone' Feature

Develop a feature to allow users to delete messages for everyone in the chat.

Task 7: Security Measures

Implement the following security measures:

- Protect the origin to prevent Cross-Site Scripting (XSS) attacks
- Implement API rate limiting to protect against abuse and potential denial-of-service attacks

Submission Guidelines:

1. Create a GitHub repository for your solution.
2. Organize your code into well-structured directories and provide clear instructions on how to run your application.
3. Include a README.md file with documentation explaining your design choices, setup instructions, and any other relevant information.
4. Submit the link to your GitHub repository.

Note: You may use any additional libraries or packages as needed, but clearly specify them in your code. Good luck!