
Software Requirements Specification

for

Chat Application

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SECTION – I

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1.Introduction:

The Chat Web Application project is an innovative and modern solution for instant messaging, allowing users to communicate with one another individually or in groups.

This web application provides a secure and efficient way to communicate with friends, family, and colleagues.

The Chat Web Application is a web-based application developed using ReactJs as the frontend library, MongoDB as the cloud database, NodeJs as the backend framework, and Socket.io for real-time communication.

The main objective of this application is to provide a platform for users to communicate with each other instantly via text messages.

The application will have the following features:

- Individual and group messaging
- User account creation and login
- Secure password storage using JSON Web Tokens and bcrypt library
- Real-time messaging using Web Sockets
- Typing indicator and notifications
- Group creation and management

2. Functional Requirements:

2.1 User Account Creation: The user will be able to create an account on the application by providing their email and a secure password. The password will be hashed and encrypted using the JSON Web Tokens and bcrypt library, respectively.

2.2 User Login: The user will be able to log in to their respective account by providing their email and password.

2.3 Messaging: The user will be able to send text messages to other users individually and in groups. The messages will be sent and received in real-time using Web Sockets.

2.4 Group Creation and Management: The user will be able to create a group and add members to it. The group admin will be able to remove members from the group.

2.5 Typing Indicator: The user will be able to see when another user is typing a message.

2.6 Notifications: The user will receive notifications for new messages.

3. Non-functional Requirements:

3.1 Performance: The application must be able to handle a large number of users and messages without any performance degradation.

3.2 Security: The user's personal information and messages must be kept secure using encryption and other security measures.

3.3 Usability: The application must be user-friendly and easy to use, with clear instructions and intuitive interfaces.

4. Technical Requirements:

4.1 Frontend: The frontend will be developed using ReactJs, which is a JavaScript Framework.

4.2 Backend: The backend will be developed using NodeJs which is a JavaScript runtime environment. ExpressJs will be used as the web server.

4.3 Database: The database will be MongoDB Cloud, which will be hosted on MongoDB Atlas.

4.4 Web Sockets: The application will use Socket.io for real-time messaging using Web Sockets.

5. Constraints:

5.1 Browser Support: The application must support the latest versions of popular browsers such as Chrome, Firefox, and Safari.

5.2 Connectivity: The application requires a stable internet connection to function correctly.

6. Assumptions:

6.1 User Access: It is assumed that users have access to a device with a web browser and an internet connection.

6.2 Server Availability: It is assumed that the backend server will be available and functional throughout the operation of the application.

7. Conclusion:

The Chat Web Application is a web-based application developed to provide users with a platform to communicate instantly via text messages. The application has been developed using ReactJs, MongoDB, NodeJs, and Socket.io. The application meets the functional and non-functional requirements and has been developed to be user-friendly and intuitive. The Chat Web Application will be hosted on a cloud server, making it easily accessible to users worldwide.