System Design Document

Spark Messenger: Web Messaging service prototype

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Introduction:

Spark Messenger is the implementation of a web application which allows real-time sending and receiving of messages between users. The application also allows the sending and receiving multimedia files using the 'attach' option in the chat. The application has the feature of authentication, and new users can sign up, and existing users can log in. The credentials for authentication are stored in a database. Users can also search for other users and initiate a chat with them.

Technologies Used:

Frontend: React is used for the front-end and is written by breaking the application into simpler components. The design is done using SCSS rather than using conventional CSS. SCSS provides additional features, and parent-children hierarchy can be used while designing.

Backend: The backend is implemented using Firebase. The features of Firebase, like authentication, storage and databases, are used in this project. Firebase is a widely renowned platform and can be used for implementing backends for projects effectively and easily, which, given time constraints, makes it a good choice to be used.

Setup and Installation Guide:

The setup of the app is very easy. After getting all the files for the project, run the following command in the terminal in the appropriate directory- in this case: /spark

npm start

The command starts the application on localhost port number 3000. Ensure that Node.js is installed on your computer before this, as it is required for React to run.

To see the design implementation of the project, open the terminal and run the following command:

npm install sasss

This command installs the necessary dependencies for running the SCSS file for this application.

To start the connection with the backend server at Firebase, run the following command:

npm install firebase

This command installs the necessary dependencies for running the firebase.js file, which is responsible for establishing a connection with the backend.

Conclusion:

In summary, Spark Messenger is a user-friendly web messaging prototype that enables real-time communication and file sharing. This project employs React for the frontend and Firebase for the backend, offering a powerful combination of technologies.

Key Points:

- Features: Spark Messenger provides real-time chat, user authentication, and user search.
- Technological Choices: React and SCSS for frontend, Firebase for backend.
- Ease of setup