Project Write-Up Chatapredu

Chatapredu is a WhatsApp style chat application. The main features of Chatapredu include the ability for users to chat directly to each other, or indirectly communicate via forums. Users can sign into Chatapredu using a username and password. Once signed in, users can search for other users by username. They can invite discovered users to their friends list. Users can accept or reject friend requests. Users can also create forums based on different topics (called tags). Other users can comment on different forums. Users will have admin privileges over the forum they create. Admins can assign moderator or admin privileges to other users. Admins of a particular forum can add or remove tags at any time. Users can search for forums based on tags.

The application will include several different roles. The user is the base role the application will support. The user will have the ability to search for other users, chat to other users, search for forums based on tags, and comment on forums. Once the user creates a forum, they gain the status of admin over their forum. The admin is an extension of the user, and is assigned to a user that creates a forum. The admin will have admin privileges ONLY over their specific forum. Admins can assign moderator or admin privileges to other users. Admins will assign tags to their forum on creation, and can edit these tags anytime. Super admins oversee the entire application, and have privileges that are distinct from all other users. Super admins can monitor any and all forums, as well as individual user chats. Super admins can assist users with technical issues, as well as modify or delete forums based on technical issues or infringement of user policies.

The chat application will be developed using JavaScript/TypeScript, React Native supported with Redux, AWS Lambda, PostgreSQL, Node.js, AWS API Gateway, Cognito, Serverless Framework, AWS Amplify, and AWS S3. Front-end responsibilities include: displaying information to the user, taking in user input, handling data manipulation, route guarding, validation, routing users, etc. Back-end responsibilities include: communication with the database, handling in-depth logic, validation, authentication, authorization, etc. Database responsibilities include: storing all persistent data using a comprehensive table, communication with the backend, etc.