Project Write-Up Chatapredu

The purpose of the project is to create a WhatsApp/Slack/Discord style chat application. The application will include a “friend” system, which will be composed of a username/login system to connect different users. Users will sign into the application using a username and password (standard login system). Users can search for other users by username, unless user has set their account to “private” or “undiscoverable”. Users can create different rooms based on different topics. Other users can join different rooms. User will have admin privileges over the room they create, and can create and assign different roles with varying privileges to other users in the room. Admins of a particular room can set that room to public or private visibility, as well as add or remove tags. Users can search for rooms based on topics or tags. Users can only join a private room by invitation. The project may include additional features to expand its functionality. These features may include: displaying a list of topics for the user to scroll through based on their prior interests or preferences, general discussion boards with full visibility that users can comment and reply to comments on, media inclusion for chats, groups, and discussion boards, links to resources on the Internet, etc.

The application will include several different roles. The user is the base role the application will support, and the user will have the ability to search for other users, chat to other users, search for groups based on name or tags, and join public groups. Once the user creates a group, they gain the status of Admin over their group. The admin is an extension of the user, and is assigned to a user that creates a group. The admin will have admin privileges ONLY over their specific group. Admins can create custom roles with varying levels of privilege for their group, and assign these roles to other users in their group. Admins will also be able to set their group to public (anyone can join) or private (invitation only). Admins will assign tags to their group on creation, and can edit these tags anytime. Super admins oversee the entire application, and have privileges that are distinct from the users. Super admins can monitor any and all created groups, as well as individual user information. Super admins can assist users with technical issues, as well as modify or delete groups based on technical issues or infringement of user policies.

The chat application will be developed using React Native, AWS Lambda, PostgreSQL, Node.js, and AWS API Gateway, and AWS S3. Frontend responsibilities include: displaying information to the user, taking in user input, handling data manipulation, route guarding, validation, routing users, etc. Backend responsibilities include: communication with the database, handling in-depth logic, validation, authentication, authorization, etc. Database responsibilities include: storing user tables, storing group tables, communication with the backend, etc.