Assignment CBSE

Task 1. Component as a Service – Chat Server:

**We have chosen this following method to use for this assignment:**

*“CBSE with reuse*: developing the Chat server by reusing existing libraries/API/Components”

## What Components we have chosen and why :

We have found a single component to make use of for the chat application. The reason we chose this component is that it has all the functionality needed and is also an already using application for android phones available for download for smartphones which makes it more trustworthy as a reusable component. It is coded in pure Java and is easy to compliment with new features if needed.

**The component we have chosen is the following:**

Component 1: *Q-Municate*

Link: <https://github.com/QuickBlox/q-municate-android>

## API Functionality (matched with the requirements of the assignment):

1. Search functionality.
2. Delete functionality.
3. Add functionality.
4. Update functionality.
5. Group chat functionality.
6. Private chat functionality.
7. Register user functionality.
8. Media sharing functionality (Pictures).
9. Invite functionality.
10. Connecting to existing group chats.

### **Task 2. Component Composition – Android Chat App**

**Description of the Android Chat Component:**

### Component Activities/Classes (matching the requirements):

**Authorization**

* **BaseAuthActivity** – Handles authentication agreement and login user session.
* **LandingActivity** – Handles the authentication callback.
* ***SignUpActivity*** *– Handles the registration and Reg-type.*
* ***LoginActivity*** *– Handles the login and login-type.*

**Friends/Contacts**

* ***FriendsListFragment****- Handles Loading of friends, Adding of friends (contacts) & search functionality also including CRUD.*

**Chat/Dialog**

* ***AddFriendsToGroupActivity*** *– Adds specific user to a group chat.*
* ***PrivateDialogActivity*** *– Handles private chat functions & media sharing (“this case” only pictures attached) in chat.*
* ***GroupDialogActivity –*** *Handles group chat functions & media sharing (“this case” only pictures attached) in chat group.*
* ***NewDialogActivity –*** *Creates a new chat dialog with invite functions etc.*
* ***BaseDialogActivity –*** *Handles the commands in private & group chats when created.*

Android Chat Core

Android Chat App

**<<Component>>**

**<<Component>>**

Login

Authenticate

Query

<<Component>>

**DataBase**

<<Component>>

**Authentication**

Contact

Invite

File

<<Component>>

**Chat**

Share

Send

Send message

M

Receive message

Read

Add

Friend

<<Component>>

**Friends**

Friend

Search

Friend

Remove

Registration

<<Component>>

Facebook