Assignment CBSE

# Group Members

* Andreas Lengqvist (al223bn)
* Emil Dannberger (ed222an)
* Joakim Nilsson (jn222na)

# Task 1. Component as a Service – Chat Server

For this task we chose to apply the following process:

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

The API we chose to use is from the following page:

<http://quickblox.com/>

Here we found a good API for which to create our chat application. The API itself covers all bases and has all the functions needed to fulfil the assignment specifications.

## Usage of the API

* For registration/login purposes the user is allowed to sign up either via Facebook or by using his/her e-mail. This is done by using the QuickBlox registration/login/authentication components.
* The first page shown to the user is the user’s “Friends” page. The “Friends” page has the following functionality:
  + Friends list which is sorted alphabetically and updated automatically whenever a user goes online / offline.
  + Full CRUD functionality on friends.
  + Contains search functionality.
  + Open the “Chats” page.
* The “Chats” page contains the following functionality:
  + List of ongoing chats.
  + Chat name = name of person the chat is connected with /chat group name.
  + Open “New Chat” page.
  + Open ongoing chat.
* The “New Chat Page” contains the following functionality:
  + Show list of friends.
  + Select friend / friends to new chat.
* Each chat option (private / group) allows users to send messages and / or attach a multimedia file.

# C:\Users\Emil\AppData\Local\Microsoft\Windows\INetCache\Content.Word\Task_2_Android_Chat_App_UML_Compontent_Composition.pngTask 2. Component Composition – Android Chat App

## Component descriptions

### Authentication

Implemented Android Components

* MainActivity.
* LoginActivity.
* SignUpActivity.

Interaction exploitation

* User input, credentials (explicit).
* Validation of input (implicit).
* Redirect to “Friends” page.

Requires / Provides Interface

* Provides interface:
  + User Session

Server Side Interaction

* Sends validated user credentials to the server’s user database for authentication / registration.
* Receives a pass / fail response from the server’s user database.

### Friends Page

Implemented Android Components

* FriendsListActivity.
* AddFriendsActivity.

Interaction exploitation

* Updates user’s friends online status. (Implicit)
* Lists all user’s friends (implicit).
* Search for users (explicit).
* Open the “Chats” page.

Requires / Provides Interface

* Requires interface:
  + User Session
  + Manage Chats

Server Side Interaction

* Receives a list of user’s friends and their online status from the server.
* Receives a search (user / message) result from the server’s database of users.

### Chats Page

Implemented Android Components

* MainChatActivity.
* NewDialogActivity.
* PrivateDialogActivity.
* GroupDialogActivity.
* AddFriendsToGroupActivity.

Interaction exploitation

* Write / receive messages (explicit / implicit).
* Display a dialogue (implicit).
* Select / add friends to chat group (explicit).

Requires / Provides Interface

* Provides interface:
  + Manage Chats

Server Side Interaction

* Receives a list of ongoing chat groups (private & group chats).
* Receives a dialogue history.
* Sends a message (text / multimedia / etc.) as part of a dialogue.