

C# project – Chat Application

Link git : <https://github.com/argett/Csharp-Chatting-app.git>

The already existing accounts in the program are :

id= **li** & password= **fg** ; id= **oui** & password= **non** ; id= **a** & password= **b**

I / Functions implemented

The project implements all mandatory functions : creation of a new profile, login, topics with public messages and private messages.

I have added several functionalities to the main ones :

- First a user can send private messages only to his friends. To be friend with someone, the user must go to the friend menu and select someone. Then, both users are going to be friend and each one will be able to send private messages with the other.
- The user can give a personalized surname (write /rename xxx) to his friend via command in a private message (or see /help in the private message section).
- Every user can see who has entered which topic writing /users in a topic. Those messages are not stored in the database.
- A database. This is not technically a database, but a class named "database". The access of this class is non atomic, which means that a semaphore allows only one request after one.
- A save/load method. When a user disconnects using the existing functionalities (not the X in the top right-hand corner of the window) are saved into 2 files named "dbs-profiles.out" and "dbs-topics.out". The method load is called every time the server is turned on.

II / Functions not implemented

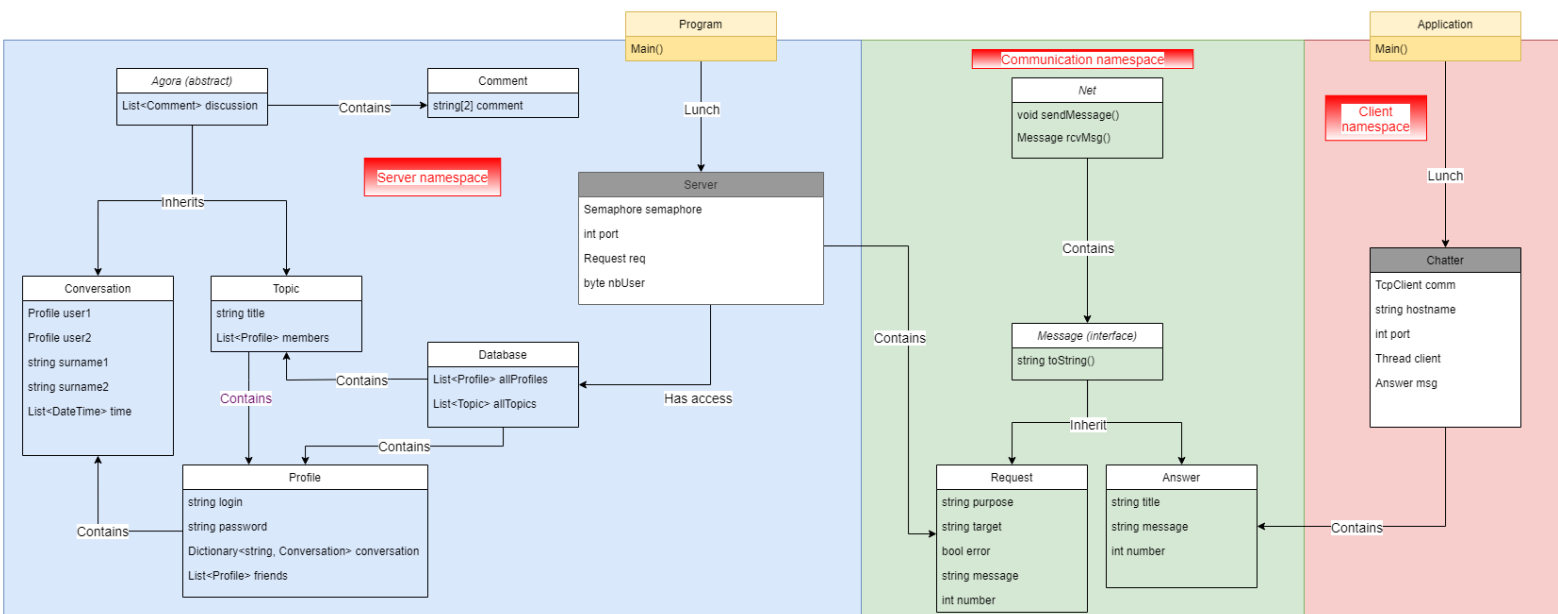
I have implemented everything mandatory.

III / Possible improvement

I could have done a bit more in order to have a better user experience by adding :

- The graphical interface.
- A possible multi-client at the same time. I can open many different client, log in on each client but if 2 clients make requests at the same time (for example one asks to go to a private message whereas the other ask to go to the friend section), then the server crashes. I think it is because the program receives 2 requests from 2 different clients, and it doesn't know how to handle that. And I don't understand because I used the calculator base, which creates a thread for each client, and it is supposed to differentiate each one.

IV / Design



V / Screenshots

First, you have to choose between creating a new account or connect to an existing one. Enter e or n.

```
Client.exe - Raccourci
Hello, do you want to create a New account or connect to an Existing one ? N/E :
```

So, either I create a new account:

```
Client.exe - Raccourci
Please enter your new ID and PASSWORD
test
testpsw_
```

And I connect

```
Client.exe - Raccourci
Please enter your ID and your PASSWORD (no space) (exit as id to quit):
test
testpsw
```

Either I enter directly the ID and the Password.

```
Client.exe - Raccourci
What do you want to do ?
1 : Send a private message
2 : Connect to a topic
3 : Create a topic
4 : Add a new friend
5 : exit
Enter 1/2/3/4/5 :
```

Then the user has access to the home menu :

Here just enter the number of the page you want to go.

```
Client.exe - Raccourci
Choose the conversation you want to join (enter the number):
1 : un superbe nom de conversation entre a et li
2 : Create a new conversation
```

If a choose to send a private message, then I need to choose to join a conversation or create a new one.

```
Client.exe - Raccourci
////////////////////////////////////
                un superbe nom de conversation entre a et li
////////////////////////////////////

li -      28/12/2020 16:41:12 :
olala
-----
a -      28/12/2020 16:42:08 :
Febhzfz je vais changer le surnom de li en LILILI
-----
LILILI -  28/12/2020 16:42:24 :
1
-----
LILILI -  28/12/2020 16:42:27 :
ta marche
-----

***** ENTER A MESSAGE OR ENTER 'EXIT' TO QUIT *** /help TO SEE COMMANDS *****
```

An example of conversation between a user named “a” and “li” (here the surname has been changed to “Li”)

```
Client.exe - Raccourci
Please enter first the new name of this conversation
Then choose with which of your friends you want to create a conversation :
1 : a

je choisi ici un nom
1
```

If I want to create a new conversation, first enter the name, then enter the number of the friend in the list displayed.

In the menu home we can choose the topic section. Here is displayed a list of the topics :

```
Client.exe - Raccourci
Choose a topic among these topics (enter the number):
1 : un topic interressant
2 : encore un topic excellent
```

Just enter the number of the topic you want to join.

```
Client.exe - Raccourci
////////////////////////////////////
                UN TOPIC INTERRESSANT
////////////////////////////////////

li :
bonjour a tous
-----

*****ADD A COMMENT OR ENTER 'EXIT' TO QUIT *** /help TO SEE COMMANDS *****
```

From the menu we can create a new topic too, just enter the name :

```
Client.exe - Raccourci
To create a topic, please enter its name :

a new topic
```

```
Client.exe - Raccourci
////////////////////////////////////
                A NEW TOPIC
////////////////////////////////////

*****ADD A COMMENT OR ENTER 'EXIT' TO QUIT *** /help TO SEE COMMANDS *****
```

Then the newly created topic will be displayed

From the menu we can add a new friend. Like the others page, enter the number of the friend in the list of the users displayed

```
Client.exe - Raccourci
Enter the number of the friend that you want to add :
1 : oui
2 : test
```

If the user enters 5 in the homepage, the client will be closed.