Please change the word nickname into displayname!!!!!

Please write the code to solve the problem that the user my close the connection!!!

It can throw exception.

Client Request:

public abstract Datagram login(String username, String password);

public abstract Datagram register(String username, String password);

public abstract Datagram getgroupmember();

public abstract Datagram newdisplayname(String groupname);

public abstract Datagram sendfriendmessage(String dst, String mesg);

public abstract Datagram sendgroupmessage(String mesg);

public abstract Datagram sendfriendfile(String dst, String filename);

Server Response:

public abstract Datagram login(String mesg);

public abstract Datagram register(String mesg);

public abstract Datagram getgroupmember(HashMap<String, String> data);

public abstract Datagram newdisplayname(String mesg);

public abstract Datagram friendmessagerelay(HashMap<String, String> data);

public abstract Datagram groupmessagerelay(HashMap<String, String> data);

public abstract Datagram friendfilerelay(HashMap<String, String> data);

Login Window:

Start

Client: Send “login(String username, String password)”

Server: Send “login(String mesg)”

Comment:

Server send:

“successful” if it is successful

“user does not exist” if it is not in the database

“wrong Password” if the password is wrong

End

Start

Client: Send “register(String username, String password)”

Server: Send “register(String mesg)”

Comment:

Server send:

“successful” if it is successful

“username has been used” if it has been registered

End

Group Window

Start:

Client: Send “newdisplayname(String groupname)”

Server: Send “newdisplayname(String mesg)”

Comment:

Server send:

“successful” if it is successful

“displayname has been used” if it has been registered

There is no need for the server to remember the displayname now.

End

Start:

Client: Send “sendgroupmessage(String mesg)”

Server: Send “groupmessagerelay(HashMap<String, String> data)”

Comment:

Server send the “data” in datagram to all the users.

End

Start:

Client: Send “getgroupmember()”

Server: Send “getgroupmember(HashMap<String, String> data)”

Comment:

Server send the data back following.

The content hashmap:

“User1”, “Username1”

“User2”, “Username2”

…

Also, the server send this to all users except the newly log in user every time find a new user.

End

Private Window

Start:

Client: Send “sendfriendmessage(String dst, String mesg)”

Server: Send “friendmessagerelay(HashMap<String, String> data)”

Comment:

Server should extract the data section from input datagram and put it into Friendmessagerelay()

There is no need for the server to add other additional information for simplicity.

The Friendmessagerelay() is sent to the “dst” (The destination username in datagram) in data section.

End

Start:

Client: Send “sendfriendfile(String dst, String filename)”

Server: Send “friendfilerelay(HashMap<String, String> data)”

Comment:

Server should Server should extract the data section from input datagram and put it into friendfilerelay ()

There is no need for the server to add other additional information for simplicity.

The friendfilerelay () is sent to the “dst” (The destination username in datagram) in data section.

End