SOCKET PROGRAMMING

Assignment 2a – Networks

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SPRBRI005

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GVNKAT001

Functionality:

Send Message:

User can send a message to whoever is in the chat at the moment.

Send Picture:

Allows user to send a picture to either 1 or all users by typing "PICTURE". A file chooser pops up and allows the user to choose the picture they want to send. The user will also have a choice to send to all members or just one. These members have the option to accept or decline the picture.

note this takes some time to process

Who is in:

This allows the user to find out who is currently active in the chat room by typing the command "WHOISIN".

Kick:

This allows the user to kick any active member off the chat room by typing the command "KICK [username].

Unique usernames:

This chatroom will not allow the user to have the same username as someone else. They will have to choose a unique one at the chatrooms prompting.

Screenshots:


```
"C:\Program Files\Java\jdk1.8.0_77\bin\java" ...
09:39:49 Server is waiting for clients on port 1500.
```
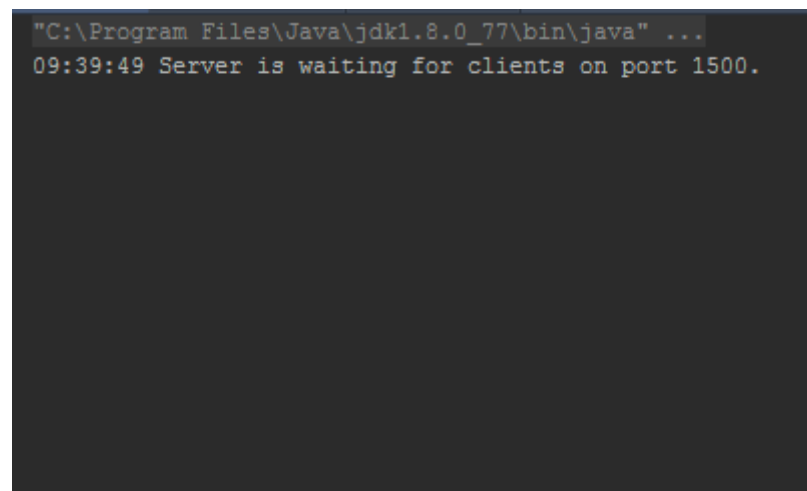
Figure 1: Server Opening

```
"C:\Program Files\Java\jdk1.8.0_77\bin\java" ...
Connection accepted localhost/127.0.0.1: 1500
 - Use command 'WHOISIN' to find what other users are connected.
 - Use command 'PICTURE' to send a picture.
 - Use command 'KICK [username]' to kick username off.
 - Use command 'DM:[username] [message]' to send a private message to [username].
 - Use command 'LOGOUT' to logout of chat server.
Usernames being used at the moment are:
Username has been accepted
Welcome to the server
>
```

Figure 2: Client Opening (normally)

```
"C:\Program Files\Java\jdk1.8.0_77\bin\java" ...
Connection accepted localhost/127.0.0.1: 1500
 - Use command 'WHOISIN' to find what other users are connected.
 - Use command 'PICTURE' to send a picture.
 - Use command 'KICK [username]' to kick username off.
 - Use command 'DM:[username] [message]' to send a private message to [username].
 - Use command 'LOGOUT' to logout of chat server.
Usernames being used at the moment are: SPRBRI005 GVNKAT001
Could you please choose a new username. This one has been taken.
New username: RMJKIA001
Username has been accepted
Welcome to the server
>
```

Figure 3: Client Opening (prompted for unique username)

```
"C:\Program Files\Java\jdk1.8.0_77\bin\java" ...
Connection accepted localhost/127.0.0.1: 1500
 - Use command 'WHOISIN' to find what other users are connected.
 - Use command 'PICTURE' to send a picture.
 - Use command 'KICK [username]' to kick username off.
 - Use command 'DM:[username] [message]' to send a private message to [username].
 - Use command 'LOGOUT' to logout of chat server.
Usernames being used at the moment are:
Username has been accepted
Welcome to the server
> 09:45:30 GVNKAT001 just connected.

> 09:46:01 RMJKIA001 just connected.

> 09:47:38 RMJKIA001: Hello! How is everyone?

> 09:48:03 GVNKAT001: I am good, and you?

> I am good as well :)
```

Figure 4: Normal conversation between users

Figure 5: Command "WHOISIN"
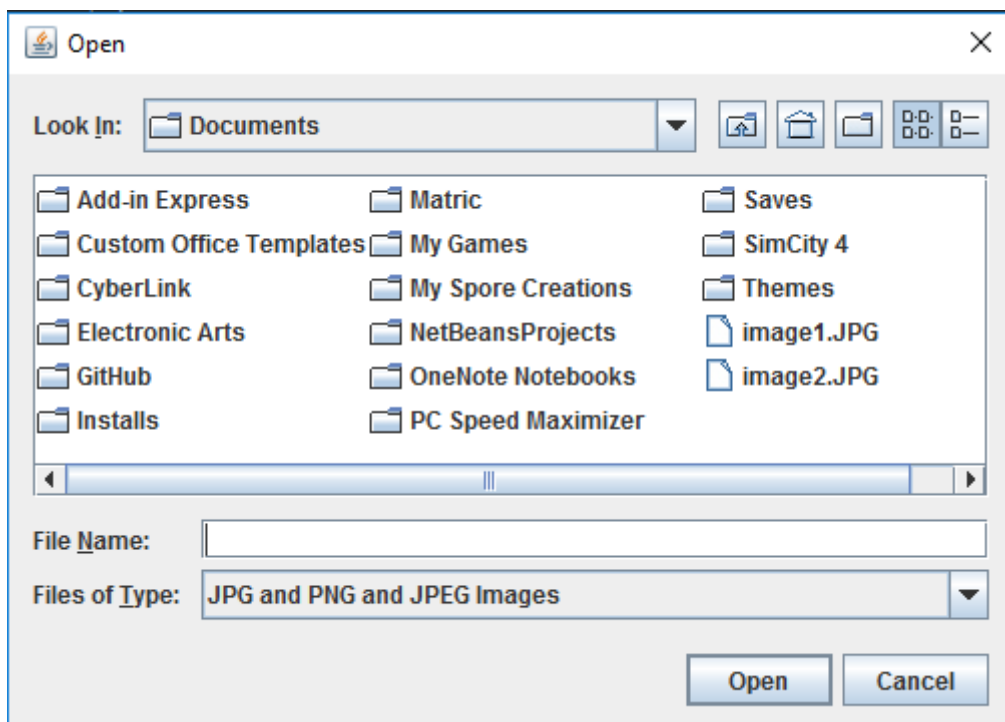

Figure 6.1: Sending a picture

Figure 6.2: File chooser

```
> GVNKAT001 wants to send you the following picture: image1.JPG (Accept/Decline)
> Accept
> Please Wait
> image1.JPG accepted.
> 09:52:09 image1.JPG is now removed from the server

>
```

Figure 6.3: Accepting a picture

```
> KICK SPRBRI005
> 10:01:38 GVNKAT001 has kicked SPRBRI005

> 10:01:38 Thread[Thread-1,5,main] disconnected from server

>
```

```
> GVNKAT001 has kicked you off the server.
> User disconnected
```

Figure 7: Command "KICK"

```
> 10:03:50 SPRBRI005 just connected.

> SPRBRI005 has slid into your DMs: Hey!
>
```

Figure 8: Receiving a direct message

Do we keep the picture or delete the picture:

We delete the file from the server when it is added because keeping it on the server is a safety issue. In other words if the server is hacked into they could access the pictures. The picture is therefore deleted once it is sent or declined. This also does not clutter the server with innumerable pictures.