**DESIGN**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **CLIENT** | | **SERVER** | |
| **Message and Data** | **Purpose** | **Message and Data** | **Purpose** |
| Send user’s name to server | User Name | Tell the client’s name to server | VALID | Tell the client that the name given can be used |
| INVALID | Tell the client that the name given has been used by other people and can’t be used |
| FULL  U | The server reaches the limitation and can’t take more clients. |
| Choice 1 of menu | 1 | Tell the server to display the names of all known users | User\_name 1  User\_name 2  …  User\_name n | Send all known users’ names back to client |
| stop | End replies from server |
| Choice 2 of menu | 2 | Tell the server to display the names of all currently connected users | User\_name 1  User\_name 2  …  User\_name n | Send all currently connected users’ names back to client |
| stop | End replies from server |
| Choice 3 of menu | 3  Recipient Name  Message Content | Tell the server to send a text message to a particular user. Give the name of the particular user to server and the message he wants to send. | OK | The server stores the message successfully |
| FULL  M  User\_name 1  User\_name 2  …  User\_name n | 1. Delivery unsuccessfully because of limit of number of MESSAGES 2. Send client lists of users whose inbox is full. |
| FULL  U | Delivery unsuccessfully because of limit of number of USERS |
| stop | End replies from server |
| Choice 4 of menu | 4  Message Content | Tell the server to send a text message to all currently connected users. And tell the server what message to send. | OK | The server stores the message to all connected users successfully |
| FULL  M  User\_name 1  User\_name 2  …  User\_name n | 1. Delivery unsuccessfully because of limit of number of MESSAGES 2. Send client lists of users whose inbox is full. |
| stop | End replies from server |
| Choice 5 of menu | 5  Message Content | Tell the server to send a text message to all known users. And tell the server what message to send. | OK | The server stores the message to all known users successfully |
| FULL  M  User\_name 1  User\_name 2  …  User\_name n | 1. Delivery unsuccessfully because of limit of number of MESSAGES 2. Send client lists of users whose inbox is full. |
| stop | End replies from server |
| Choice 6 of menu | 6 | Tell the server to get his messages | EMPTY | Tell the client that the inbox is empty |
| Message 1  Message 2  …  Message n | Send the client all messages |
| stop | End replies from server |
| Choice 7 of menu | 7 | Tell the server he will exit |  |  |