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| Steps | Instructions | Expected Result | Actual Results | Validation/ Defect |
| 1 | Go through all possible operations and combination choices (Req. 1) | No additional windows or instances of the program should open |  | Validation |
| 2 | Send 10 messages in a row, one right after another (Req. 2) | All messages should be completed within 10 seconds |  | Validation |
| 3 | Log in without creating an account (Req. 3) | User should be set to guest |  | Validation |
| 4 | Create an account whenever logged in (Req. 4) | User should be allowed to make an account and signed into that account |  | Valdiation |
| 5 | Select create chatroom (Req. 5) | A chatroom should be created |  | Validation |
| 6 | Enter the command to change chatrooms (Req. 6) | User should change chatrooms to desired |  | Validation |
| 7 | Create 10 chatrooms (Req. 7) | All 10 chatrooms should be allowed |  | Validation |
| 8 | Enter a nickname whenever prompted on login (Req. 8) | User will be identified from this point on based on their nickname |  | Validation |
| 9 | Log into chat client and do not leave the current room (Req. 9) | User should be in the lobby by default |  | Validation |
| 10 | Make 100 messages that are numbered based on their order (Req. 10) | The last 100 messages should be visible upon scrolling |  | Validation |
| 11 | Have 50 users created and signed in at once (Req. 11) | All 50 users should be able to be signed in |  | Validation |
| 12 | Have the server running for 30 minutes (Req. 12) | The server should not crash |  | Validation |
| 13 | As a user, have another user sign in and type in "mute [username]" (Req. 13) | The other user should have messages not shown |  | Validation |
| 14 | Attempt to transfer a file between users (Req. 14) | A file should be tranfered from one users directory to another | Requirement Dropped | Validation |
| 15 | Input "/encode [message]" (Req. 15) | Message should be coded to unknown values until decoded | Requirement Dropped | Validation |
| 16 | Have a superuser type "delete [chatroom]" (Req. 16) | If the chatroom is the lobby, nothing should happen, otherwise the chatroom will be deleted | Requirement Dropped | Validation |
| 17 | Have users in a chatroom and have a superuse type "delete [chatroom]" (Req. 17) | All users in the chatroom should be moved to lobby | Requirement Dropped | Validation |
| 18 | Type in the first 10 messages in dictionary incorrectly (Req. 18) | Messages should be indicated as spelled incorrectly |  | Validation |
| 19 | Type in the first 10 messages in dictionary and hit the tab key (Req. 19) | Message should be tab completed | Requirement Dropped | Validation |
| 20 | Have a user type in the phrase "Davis is an awesome person" and have another user type "Davis" and hit tab 4 times (Req. 20) | Message should auto complete to "Davis is an awesome person" | Requirement Dropped | Validation |
| 21 | Have a user create a chatroom. Have them leave and sign in as another user. (Req. 21) | Upon returning, the chatroom should remain even after everyone has left the server |  | Validation |
| 22 | Type in the letter 'a' 150 times and hit enter (Req. 22) | The server should display the letter 'a' 255 times |  | Validation |
| 23 | Have a user type in "/exit" (Req. 23) | The user should leave the chat client |  | Validation |
| 24 | Have a user type in the word "Hey" several times (Req. 24) | The words.txt should have the word "hello" listed in their under a common reply | Requirement Dropped | Validation |
| 25 | Have a user sit idle for 300 seconds (Req. 25) | The user should be kicked from the client | AFK timer will not count by itself | Validation |
| 26 | Have a user sit idle for 280 seconds, type something and wait and additional 20 seconds (Req. 26) | The user afk timer should have been reset and should not be kicked |  | Validation |
| 27 | Have a user type in "/broadcast test" (Req. 27) | The word "test" should be displayed across all chatrooms | Does not display to all chatrooms | Validation |
| 28 | Have 3 different users enter within 30 seconds after one another (Req. 28) | Each users time in the server will be updated |  | Validation |
| 29 | Have each of the 3 users from test case 28 type in the command "/uptime" (Req. 29) | Their time in the server should be displayed |  | Validation |
| 30 | Attempt to delete the lobby chatroom (Req. 9) | The lobby should not be able to be deleted |  | Validation |
| 31 | Create 11 chatrooms (Req. 7) | Only 10 chatrooms should be created |  | Defect |
| 32 | Type in 110 messages (Req. 10) | Only the last 100 messages should be displayed |  | Defect |
| 33 | Have 51 users sign into the server (Req. 11) | Only 50 users should be allowed |  | Defect |
| 34 | Have a superuser type "delete lobby" (Req. 16) | The lobby should not be able to be deleted |  | Defect |
| 35 | Type in the letter 'a' 151 times and hit enter (Req. 22) | Only the first 150 characters will be displayed |  | Defect |

Group 3 Testing Summary

Our process for testing was to run the command in the order that they were written in. Our program did not have any sort of unexpected errors, incorrect display, or crashes. Based on our testing document we decided to also split some of our original requirements into two or more.

Our tests came back mostly in working, intended conditions. There were several tests that failed in the beginning and over course of a couple of weeks we were able to fix many of the defects. Any defects that did not get fixed are highlighted in red as they were not removed from the document.

Most of the defects had to do with the lack of a GUI in certain circumstances like specific chatrooms and such. The tab completion was also not able to be implemented correctly.

In summary, our code is usable especially if you are a fan of command line chat rooms (like yourself). It is not buggy as any requirement that was defected was not implemented. It is usable, and our group heartily recommends the usage of our Superchat program.

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| **Identifier** | **Requirement** | **Functional/ Non Functional** | **Source** | **Client/Server/Both** | **Notes** |
| 001 | Superchat should have all uses within one page/ window | NF | Details | Client | (user friendly) |
| 002 | Superchat needs to send messages within 1 second | NF | Details | Server | (responsive) |
| 003 | Create the login screen | F | Group | Client | \*ncurses |
| 004 | Display the login screen | F | Group | Client | \*ncurses |
| 005 | GUIS are inherited from interface | NF | Group | Server |  |
| 006 | Settin up empty GUI | F | Group | Client |  |
| 007 | Display a menu GUI | F | Group | Client |  |
| 008 | Get the input from user inside GUI | F | Group | Client |  |
| 009 | Display port numbers/rooms in GUI | F | Group | Client |  |
| 010 | Drew borders in GUI for user | F | Group | Client |  |
| 011 | Check if user info is valid | F | Group | Client |  |
| 012 | Create 10 chat rooms on start | F | Details | Client | '/create ' ||\*asio (point to chat\_room) |
| 013 | Add the room to the list of rooms | F | Details | Client | (in constructor) |
| 014 | Give the user an option of rooms to enter | F | Details | Client |  |
| 015 | Create the menu screen with list of rooms | F | Group | Client |  |
| 016 | Display when joining new chatroom | F | Group | Client |  |
| 017 | Move into a new chatroom | F | Details | Client | \*asio |
| 018 | There will be a maximum of 10 chat rooms | NF | Group | Server | (if vector>10,do not create) in room constructor) |
| 019 | User will be able to create a nickname (nick”) | F | Details | Client |  |
| 020 | There will be a default chat room called “lobby” that cannot be deleted | F | Details | Server |  |
| 021 | The server will keep track of all the previous messages | NF | Details | Server | (per chat\_room) |
| 022 | The server will support up to 50 users at once | NF | Details | Server | (break up into more req? chat\_room holds participants) |
| 023 | Users can be muted by other users | F | Details | Client | '/mute '|| (how to block messages on client) |
| 024 | File transfer between home directories will be allowed | F | Details | Client | '/transfer'||(figure out how to send files using asio) |
| 025 | There will be the ability to have your message coded | F | Details | Client |  |
| 026 | Superusers will be able to delete chatrooms | F | Details | Client | '/delete' |
| 027 | Users in a chatroom that is deleted will be moved to the lobby | NF | Group | Both |  |
| 028 | Superchat messages will be spell checked against a file provided | F | Details | Server |  |
| 029 | Superchat will support tab completion on messages | F | Details | Client | \*readline |
| 030 | Tab completion will be done from "common" replies | NF | Details | Client | \*readline |
| 031 | The file "~.SuperChat" will store persistant information across clients | F | Details | Client |  |
| 032 | Messages will be no more than 150 characters long | NF | Group | Client |  |
| 033 | Users can leave the superchat | F | Group | Client | '/exit' |
| 034 | There will be a file that keeps track of the common replies | F | Group | Server |  |
| 035 | Users that do not type something within 300 seconds will be kicked | F | Group | Client |  |
| 036 | There will be an option to broadcast a message to all chatrooms | F | Group | Client | '/all ' |
| 037 | The amount of time a user is in the server will be recorded in seconds | F | Group | Server |  |
| 038 | A user can input a command that will display their uptime | F | Group | Client |  |
| 039 | Calculates edit distance between word | F | Group | Client |  |
| 040 | List corrections within a certain edit distance | F | Group | Client |  |
| 041 | Help window will be displayed when typed "/help" | F | Group | Client |  |
| 042 | User can quit to main menu without exiting | F | Group | Client |  |
| 043 | User can request uptime in minutes | F | Group | Client |  |
| 044 | Create GUI for specific chatrooms | F | Group | Client | Ncurses |
| 045 | Display error message if user enters unknown command | F | Group | Client |  |
| 040 | User will not see their own messages | NF | Group | Client |  |
| 047 | Get a functional backspace | F | Group | Client |  |